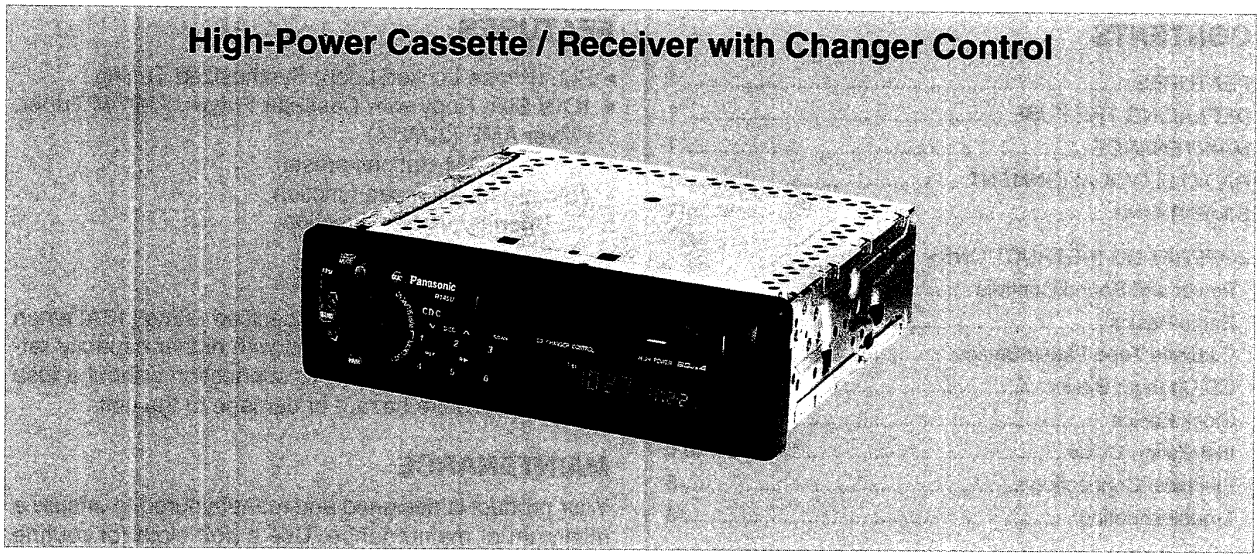
ORDER NO. ACED0001551

Service Manual

AUTOMOTIVE CONSUMER ELECTRONICS

CQ-R145U



Specifications*

General

Power supply	: 12V DC (11V-16V) Test Voltage 14.4V, Negative ground
Maximum Power Output	: 30W × 4 channels (at 400Hz, Volume Control Max.)
Power Output	: 15W / channel (4Ω, 40 to 30,000 Hz, 3% THD)
Tone Action	: Bass ; ±12 dB at 100Hz Treble ; ±12 dB at 10kHz
Current Consumption	: Less than 2.5 A (tape mode, 0.5W 4-speaker)
Pre-Amp Output Voltage	: 2.0V (CD Play mode; 1kHz 0 dB)
Speaker Impedance	: 4Ω (4 - 8 Ω acceptable)

AM Radio

Frequency Range	: 530 - 1,710 kHz
Useable Sensitivity	: 28 dB/μV (25 μV/ S/N 20 dB)

FM Stereo Radio

Frequency Range	: 87.9 - 107.9 MHz
Useable Sensitivity	: 12 dBf. (1.1μV/75Ω S/N 30 dB)
50 dB Quieting Sensitivity	: 17 dBf. (1.8μV/75Ω)
Frequency Response	: 30 - 15,000Hz (±3 dB)
Alternate Channel Selectivity	: 75 dB
Stereo Separation	: 35 dB (1kHz)
Signal/Noise Ratio	: 70 dB (Mono)

Tape Player

Reproduction System	: 4 - track, 2-program stereo
Tape Speed	: 4.76 cm/sec
FF/REW Time	: Less than 200 sec (C-60)
Frequency Response	: 35 - 14,000Hz (±3 dB)
Wow and Flutter	: 0.12 % (WRMS)
Signal/Noise Ratio	: 52 dB

Dimensions** (W × H × D)	: 178 × 50 × 150 (mm)
Weight**	: 1.6 kg

* Specifications and the design are subject to possible modification without notice due to improvements.
** Dimensions and weight shown are approximate.
*** Above specifications comply with EIA standards.

Panasonic®

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⚠WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the products dealt with in this service information by anyone else could result in serious injury or death.

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FEATURES

- PLL (Phase Locked Loop) Synthesized Tuning
- 1DIN Size Body with Cassette Player, AM/FM Tuner, Power AMP (30W×4)
- 18-FM , 6-AM stations preset
- Auto preset and scan function
- CD Changer Control function

REPLACING THE FUSE

Be sure to use a fuse of the specified rating (10A) when replacing a blown fuse. Fuses with higher capacity ratings, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit.

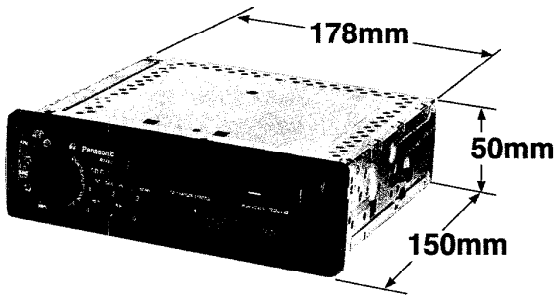
MAINTENANCE

Your product is designed and manufactured to ensure a minimum of maintenance. Use a soft cloth for routine exterior cleaning. Never use benzine, thinner or other solvent.

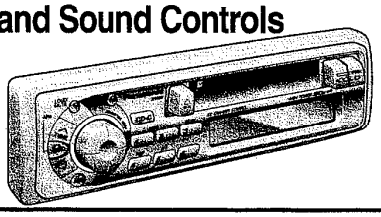
RADIO ALIGNMENT

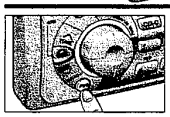
Do not align the AM/FM package blocks. When the package block is necessary, it will be supplied already aligned at the factory.

DIMENSIONS



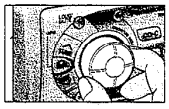
Power and Sound Controls





Power

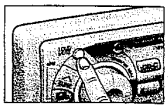
Turn the key in the ignition until the accessory indicator lights.
Press **[PWR]** to switch on the power.



Volume

- Turn **[AUDIO CONTROL]** knob clockwise or counterclockwise to increase or decrease volume.

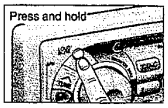
Anti-Volume-Blast Circuit
This unit has a safety function which slowly raises volume level when power is switched back on after it is turned off at a specific level (20) or higher.



Mute

- Press **[LOUD/MUTE]** to mute the sound completely.

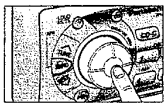
- Press **[LOUD/MUTE]** again to cancel.



Tone Enhancement

- Press and hold **[LOUD/MUTE]** for more than 2 seconds to enhance bass and treble tones for the low or medium volume.

- Press and hold **[LOUD/MUTE]** for more than 2 seconds again to cancel.

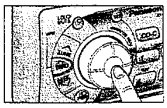


Changing Audio Modes

Press **[SEL]** to change the audio mode as follows.

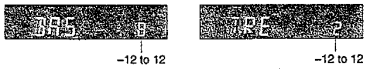
VOL (Volume) ➡ BAS (Bass) ➡ TRE (Treble) ⬇ BAL (Balance) ⬅ FAd (Fader) ⬆

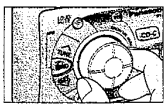
Note: In the audio mode (BAS/TRE/BAL/FAd), the display will be back to regular operation mode with no operation for more than 5 seconds (2 seconds in the VOL mode).



Bass and Treble

Press **[SEL]** to change to the BASS (TREBLE) mode. Turn **[AUDIO CONTROL]** knob clockwise or counterclockwise to increase or decrease the bass/treble response.





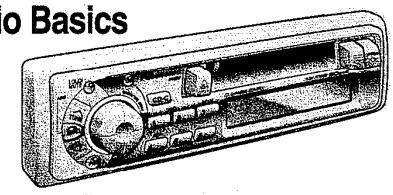
Balance

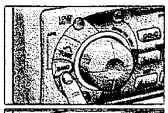
Press **[SEL]** to change to the BALANCE mode. Turn **[AUDIO CONTROL]** knob clockwise or counterclockwise to the right or left speakers.

Fader

Press **[SEL]** to change to the FADER mode. Turn **[AUDIO CONTROL]** knob clockwise or counterclockwise to shift the sound volume to the front or rear speakers.

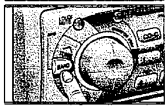
Radio Basics





Change to the tuner mode

① In case of Tape mode ..... Eject a tape.
② In case of CD Changer mode ..... Press **[BAND]**.

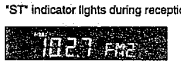


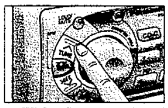
Selecting a Band

Press **[BAND]** to change the bands as follows.

FM1 ➡ FM2 ➡ FM3 ➡ AM ⬇ ⬆

"ST" indicator lights during reception of a stereo broadcast.



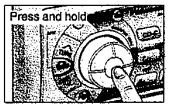


Manual Tuning

Press **[∧TUNE]** or **[SEEK∨]** to tune in a higher or lower frequency.

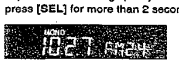
Seek Tuning

Press and hold **[∧TUNE]** or **[SEEK∨]** for more than 0.5 seconds, then release. Seeking will automatically stop when the signals of the next broadcast station are received.



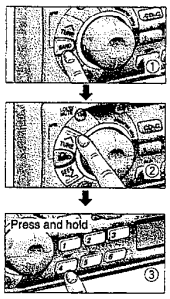
To reduce interference during FM broadcasts (MONO)

Press and hold **[SEL]** for more than 2 seconds for monaural reception in case a lot of interference is present in an FM stereo signal or to improve the listening quality of weak FM broadcasts. To turn it off, press **[SEL]** for more than 2 seconds again.



Preset Station Setting

FM1, FM2, FM3 and AM can save maximum 6 stations each in their preset station memories.



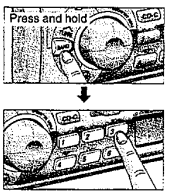
Manual Station Preset

① Press **[BAND](APM)** to select a desired band.
② Use manual or seek tuning to find a station which is to be preset in the memory.
③ Press and hold one of the preset buttons **[1]** to **[6]** until the display blinks once.

Note: You can change the memory setting by repeating the above procedure.

Tuning in a Preset Station

Press the corresponding preset buttons **[1]** to **[6]** to tune in a preset station.



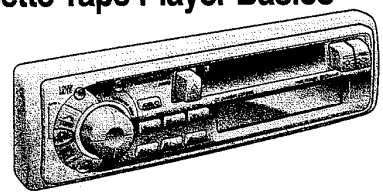
Auto Preset Memory

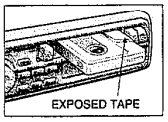
Select a band, and press and hold **[BAND]** (APM) for more than 2 seconds.

- The 6 strongest available stations will be automatically saved in the memory on preset buttons **[1]** to **[6]**.
- Once set, the preset stations are sequentially scanned for 5 seconds.
- Press the corresponding preset button for the broadcast you want to listen to.

Caution: For safety reasons, do not attempt to program while driving.

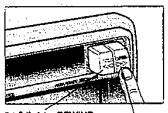
Cassette Tape Player Basics





Loading a Tape

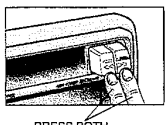
Gently insert a cassette with the exposed tape facing to the right until the mechanism captures it, and playback starts.



Rewind and Fast Forward

When the program indicator ▲ light, press [◄◄] to rewind or press [►►] to fast forward the tape.
When the program indicator ▼ light, press [◄◄] to fast forward or press [►►] to rewind the tape.

To stop rewind or fast forward, gently press the button that is not in use. The tape will resume playing from that position.

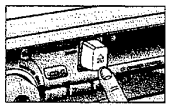


Changing Sides

Press [◄◄] and [►►] at the same time to reverse.
The display changes to indicate which program is playing.

Top Side Playing

Bottom Side Playing



Stopping and Ejecting the Tape

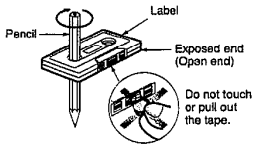
Once inserted into the unit, your tape will play continuously until you eject it.
Press [⏏] to eject the tape and radio mode will resume.
When you stop the car engine, the tape will stop but not be ejected.

Notes:

- You can not change to the CD changer mode or radio mode while tape playing. If you want to change to the CD changer mode or the radio mode, eject the tape.
- Always remove the cassette from the unit when the cassette tape player is not being used. This will prolong the life of your tape.

Notes on Cassette Tapes

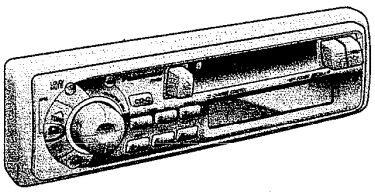
Tape Slack:
Use a pencil or similar object to take up the slack as shown. If a loose tape is used, this may result in the tape becoming tangled in the rotating parts of the unit.

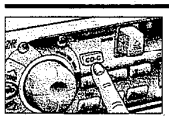


Caution:
To maintain your cassette player in top condition, avoid using tapes that are longer than 90 minutes (C-90).

CD Changer Basics

Note: CD changer functions are designed for an optional CD changer unit.

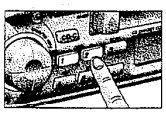




To Changer mode

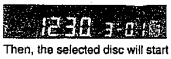
While a disc magazine inserted in the CD changer, press **[CD·C]**.
Play starts from first track.

Note: The cassette, if loaded, should be removed. Otherwise, the CD play won't start.

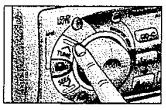


Disc Selection

Press [1] (∨DISC) or [2] (∧DISC) to select a disc in descending or ascending order.

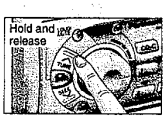


Then, the selected disc will start to play from the first track.



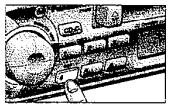
Track Selection

- Press [∧] to advance to the next track.
- Press [∨] to start play from the beginning of the track now playing.
- Press [∨] or [∧] repeatedly to skip the desired number of tracks.



Track Search

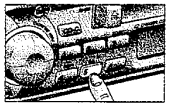
- Press and hold [∧] or [∨] for more than 0.5 seconds to advance or reverse through a track.
- Release [∧] or [∨] to resume regular CD changer play from the released position.



Track Repeat

- Press [4] (REP) to repeat the current selection.

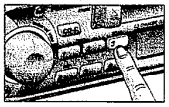
- Press [4] (REP) again to cancel.



Track Random

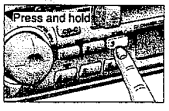
- Press [5] (R ►). All the available tracks on all discs in the magazine will be played in a random sequence.

- Press [5] (R ►) again to cancel.



Track Scan

- Press [3] (SCAN). The display blinks and the first 10 seconds of each track on the discs play in sequence.
- Press [3] (SCAN) again to cancel.



Disc Scan

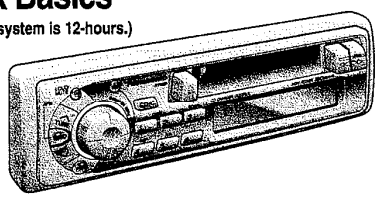
- Press and hold [3] (SCAN) for more than 2 seconds. The 1st track of all the discs in the magazine is played for 10 seconds each.
- Press and hold [3] (SCAN) for more than 2 seconds again to cancel.

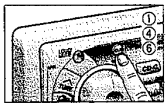
❑ Error Display Messages

	Appears on the display when the compact disc is dirty or inverted. Selects the next available compact disc.		Appears on the display when the compact disc stops operating for some reason. Please turn off the car engine (ACC off) and remove the fuse from the battery lead (yellow) for 3 minutes. Then reinstall the fuse.
	Appears on the display when compact disc is scratched. Selects next available compact disc.		Appears on the display when there is no disc in the magazine.

Clock Basics

(The clock system is 12-hours.)

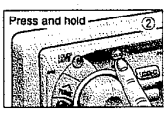




Initial Time

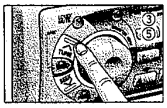
① Press [CLK]. "AdJ" appears on the display.

② Press and hold [CLK] again for more than 2 seconds. "12" blinks, and the time setting mode is activated.



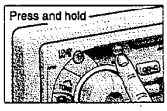
③ Press [Λ] or [V] to set hours.

④ Press [CLK] again for minute setting.



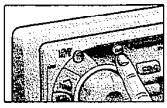
⑤ Press [Λ] or [V] to set minutes. Hold [Λ] or [V] to change numbers rapidly.

⑥ When you have set the time, press [CLK].



Time Reset

Press and hold [CLK] for more than 2 seconds to activate the time setting mode. Then, repeat step ③ to ⑥ above.



Clock Display

Press [CLK] for clock display.
Press [CLK] again, the current audio display mode resumes.

Installation Guide

⚠ WARNING

This installation information is designed for experienced installers and is not intended for non-technical individuals. It does not contain warnings or cautions of potential dangers involved in attempting to install this product.

Any attempt to install this product in a motor car by anyone other than qualified installer could cause damage to the electrical system and could result in serious personal injury or death.

❑ Overview

This product should be installed by a professional. However, if you plan to install this unit yourself, your first step is to decide where to install it. The instructions in these pages will guide you through the remaining steps: **(Please refer to "WARNING" statement above).**

- Identify and label the car wires.
- Connect the car wires to the wires of the power connector.
- Install the unit in the dash.
- Check the operation of the unit.

If you do encounter problems, please consult your nearest professional installer.

Caution: This unit will operate with a 12 volt DC negative ground auto battery system only. Do not attempt to use it in any other systems. Doing so could cause serious damage.

Before you begin installation, look for the following items included in the packing with your unit.

❑ Installation Hardware

No.	Item	Diagram	Q'ty
①	Mounting Collar		1
②	Hex. Nut (5 mmφ)		1
③	Rear Support Strap		1
④	Tapping Screw (5 mmφ x 16 mm)		1
⑤	Mounting Bolt (5 mmφ)		1
⑥	Power Connector		1
⑦	Dismounting Plate		1

- **Warranty Card** ..... Fill this out promptly
- **Panasonic Servicenter for service Directory** ..... Keep this for future reference in case the unit needs servicing
- **Installation Hardware** ..... Needed for in-dash installation

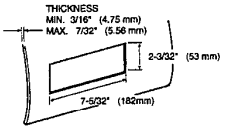
Installation Guide continued

❑ Required Tools

You'll need a screwdriver, a 1.5 volt AA battery, and the following:

12 V DC TEST BULB	ELECTRICAL TAPE	SIDE-CUT PLIERS

❑ Dashboard Specifications

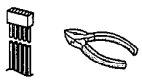


❑ Identify All Leads

The first step in installation is to identify all the car wires you'll use when hooking up your sound system.
As you identify each wire, we suggest that you label it using masking tape and a permanent marker. This will help avoid confusion when making connections later.

Note: Do not connect the power connector to the stereo unit until you have made all connections. If there are no plastic caps on the stereo hooking wires, insulate all exposed leads with electrical tape until you are ready to use them. Identify the leads as follows.

Power Lead
If your car has a radio or is pre-wired for one :
Cut the connector wires one at a time from the plug (leaving the leads as long as possible) so that you can work with individual leads.



Turn the ignition on to the accessory position, and ground one lead of the test bulb to the chassis.

Touch the other lead of the test bulb to each of the exposed wires from the cut radio connector plug. Touch one wire at a time until you find the outlet that causes the test bulb to light.

Now turn the ignition off and then on. If the bulb also turns off and on, that outlet is the car power lead.

If your car is not wired for an audio unit :
Go to the fuse block and find the fuse port for radio (RADIO), accessory (ACC), or ignition (IGN).

Battery Lead
If your stereo unit has a yellow lead, you will need to locate the car's battery lead. Otherwise you may ignore this procedure. (The yellow battery lead provides continuous power to maintain a clock, memory storage, or other function.)

If your car has a radio or is pre-wired for one:
With the ignition and headlights off, identify the car battery lead by grounding one lead of the test bulb to the chassis and checking the remaining exposed wires from the cut radio connector plug.

If your car is not wired for an audio unit :
Go to the fuse block and find the fuse port for the battery, usually marked BAT.

Speakers
Identify the car speaker leads. There will be two leads for each speaker, usually color coded.
A handy way to identify the speaker leads and the speaker they connect with is to test the leads using a 1.5 volt AA battery as follows.

Hold one lead against one pole of the battery and stroke the other lead across the other pole. You will hear a scraping sound in a speaker if you are holding a speaker lead.
If not, keep testing different lead combinations until you have located all the speaker leads. When you label them, include the speaker location for each.

Antenna Motor
If your car is equipped with an automatic power antenna, identify the car motor antenna lead by connecting one bulb tester lead to the car battery lead and touching the remaining exposed wires from the cut radio connector plug one at a time. You will hear the antenna motor activate when you touch the correct wire.

Antenna
The antenna lead is a thick, black wire with a metal plug at the end.

❑ Connect All Leads

Now that you have identified all the wires in the car, you're ready to begin connecting them to the stereo unit wires. The connection diagram on Page 23 show the proper connections and color coding of the leads.
We strongly recommend that you test the unit before making a final installation.
You can set the unit on the floor and make temporary connections to test the unit. Use electrical tape to cover all exposed wires.

IMPORTANT : Connect the red power lead last, after you have made and insulated all other connections.

Ground
Connect the black ground lead of the power connector to the metal car chassis.

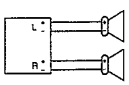
Speakers
Connect the speaker wires. See the wiring diagram below for the proper hookups. Follow the diagram carefully to avoid damaging the speakers and the stereo unit.

The speaker used must be able to handle more than 30 watts of audio power. If using an optional audio power, the speakers should be able to handle the maximum amplifier output power. Speakers with low input ratings can be damaged.

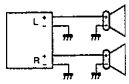
Speaker impedance should measure 4 - 8 ohms, which is typically marked on most speakers. Lower or higher impedance speakers will affect output and can cause both speaker and stereo unit damage.

Caution: Never ground the speaker cords. For example, do not use a chassis ground system or a three-wire speaker common system. Each speaker must be connected separately using parallel insulated wires. If in doubt about how your car's speakers are wired, please consult with your nearest professional installer.

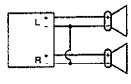
CORRECT
No Common Ground



INCORRECT
Common Chassis Ground



INCORRECT
Speaker Common
(common earth lead)



Installation Guide continued

Motor Antenna
Connect the car motor antenna lead to the blue motor antenna relay control lead.

Battery
Connect the yellow battery lead to the correct radio wire or to the battery fuse port on the fuse block.

Antenna
Connect the antenna by plugging the antenna lead into the antenna receptacle.

Equipment
Connect any optional equipment such as amplifier, according to the instructions furnished with the equipment. Keep about 12 inches (30 cm) of distance between the speaker cords/amplifier unit and the antenna/antenna extension cord. Read the operating and installation instructions for any equipment you will connect to this unit.

Power
Connect the red power lead to the correct car radio wire or to the appropriate fuse port on the fuse block.

If the stereo unit functions properly with all these connections made, disconnect the wires and proceed to the final installation.

❑ Final Installation

Lead Connections
Connect all wires, making sure that each connection is insulated and secure. Bundle all loose wires and fasten them with tape so they won't fall down later. Now insert the stereo unit into the mounting collar.

Congratulations! After making a few final checks, you're ready to enjoy your new auto stereo system.

❑ Final Checks

1. Make sure that all wires are properly connected and insulated.
2. Make sure that the stereo unit is securely held in the mounting collar.
3. Turn on the ignition to check the unit for proper operation.

If you have difficulties, consult your nearest authorized professional installer for assistance.

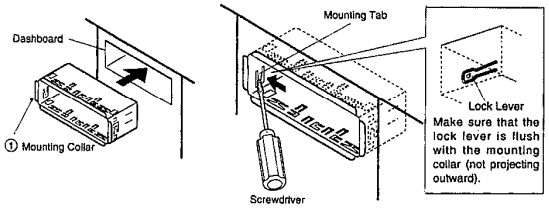
❑ Precautions

- When bending the mounting tab of the mounting collar with a screwdriver, be carefull not to injure your hands and fingers.
- We recommend you to wear gloves for installation work to protect yourself from injuries.

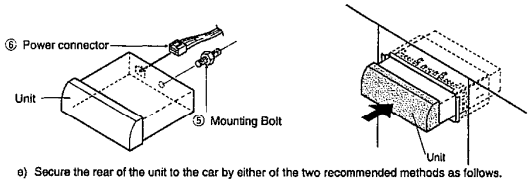
❑ Installation Procedures

Note: Disconnect the cable from the negative (–) battery terminal.

1. **Secure the Mounting Collar ①.**
Insert Mounting Collar ① into the car's dashboard, and bend mounting tabs out with a screwdriver.

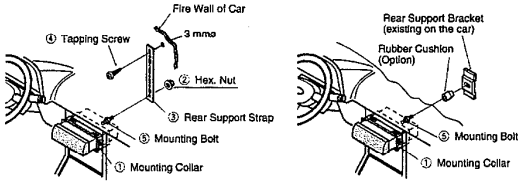

Dashboard
① Mounting Collar
Mounting Tab
Screwdriver
Lock Lever
Make sure that the lock lever is flush with the mounting collar (not projecting outward).

2. **Secure the rear of the unit.**
a) Check the electrical connection by referring to this operating instructions.
b) Connect the Mounting Bolt ⑤ using a suitable wrench.
c) Insert the Power Connector ⑥ to the unit.
d) Insert the unit into Mounting Collar ① and push it in until "click" is heard.



e) Secure the rear of the unit to the car by either of the two recommended methods as follows.

- **Using the Rear Support Strap ③**
Affix one end of the Rear Support Strap ③ to the rear of the unit, and the other end to the Fire Wall of Car, or some other metallic area.
- **Using the Rubber Cushion (Option)**
(If there is an existing Rear Support Bracket on the Fire Wall of Car.)
Cover Mounting Bolt on the rear of the unit with Rubber Cushion (Option), and mount it into the existing Rear Support Bracket.

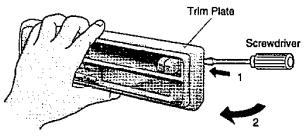


3. **After installation, reconnect the negative (–) battery terminal.**

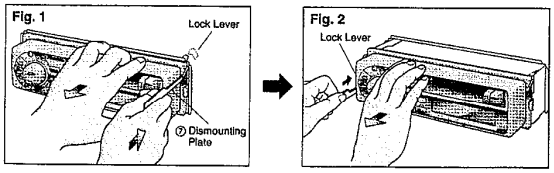
Installation Guide continued

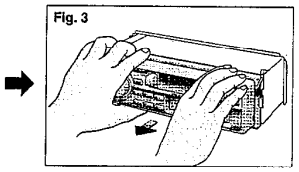
To Remove the Unit

a) Remove the trim plate with a screwdriver as shown in the figure.



b) Pull out the unit while pushing the two lock levers using Dismounting Plate ⑦ as follows. (Fig 1, 2)
c) Remove the unit pulling with both hands. (Fig 3).



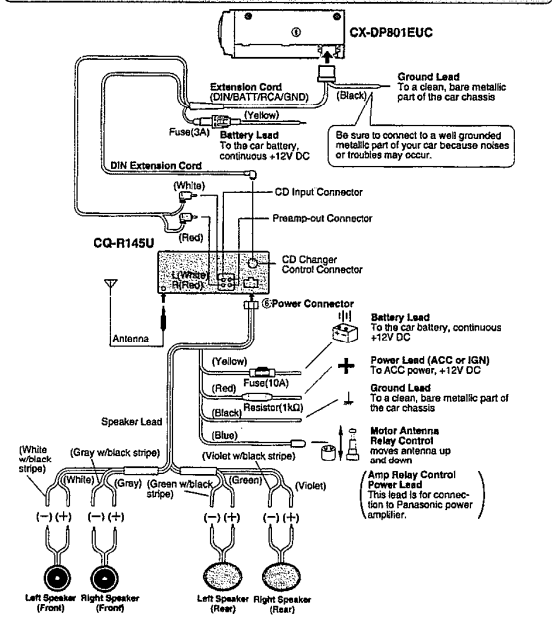


Note: Do not lose the Dismounting Plate. It will be needed to remove the unit from the car's dashboard.

Electrical Connection

- This unit can be connected to an optional CD changer (CX-DP801EUC). For details consult your nearest Panasonic dealers.
- For connection to a CD changer, refer to the operating instructions of the CD Changer (CX-DP801EUC).

Caution:
- This product is designed to operate of a 12 volt, negative ground battery system.
- To prevent damage to the unit, be sure to follow the connection diagram below.
- Remove the covering of the leads about 5 mm long from their end before connecting.
- Do not insert the power connector into the unit until the wiring is completed.
- Be sure to insulate any exposed wires from a possible short-circuit from the car chassis. Bundle all cables and keep cable terminals free from touching any metal parts.



Troubleshooting

❑ Maintenance

Your product is designed and manufactured to ensure a minimum of maintenance. Use a soft cloth for routine exterior cleaning. Never use benzine, thinner, or other solvents.

❑ When Something Doesn't Work

Check the charts below for possible causes and solutions to any problem you might be experiencing. Some simple checks or minor adjustments may eliminate the problem.

❑ Product Servicing

If the suggestions in the charts don't solve the problem, we recommend that you take it to your nearest authorized Panasonic Servicenter. The unit should be serviced only by a qualified technician.

❑ Replacing the Fuse

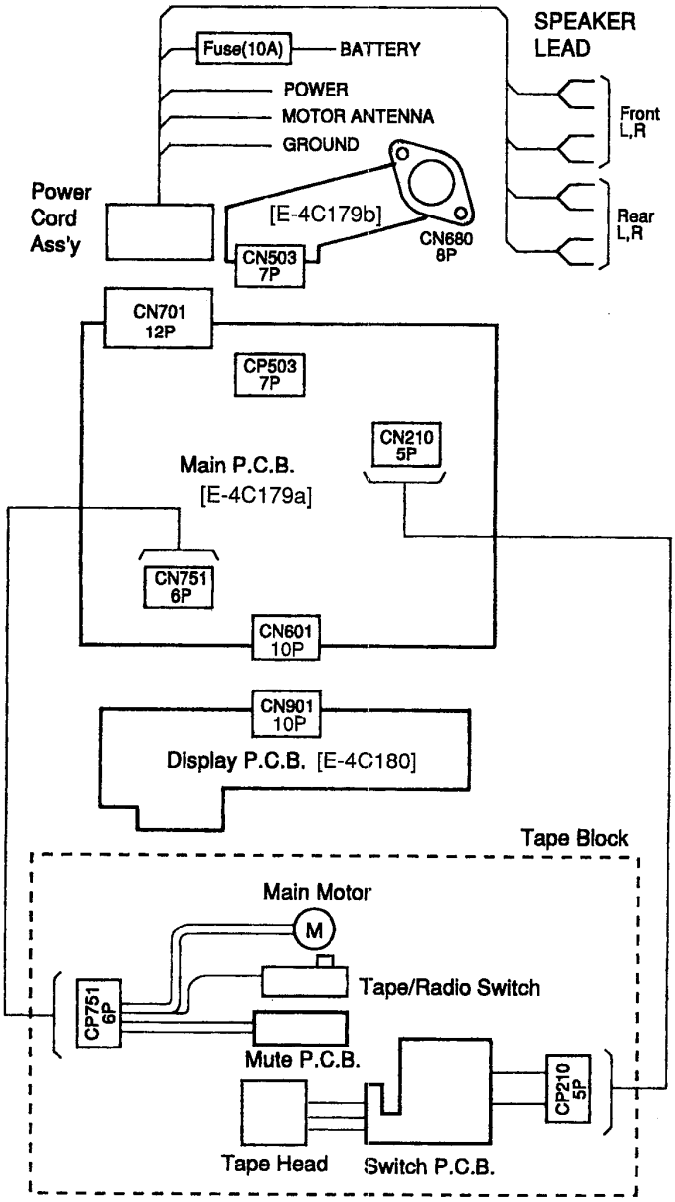
Use fuses of the same specified rating (10 amps). Using different substitutes or fuses with higher ratings, or connecting the unit directly without a fuse, could cause fire or damage to the stereo unit.
If the replacement fuse fails, contact your nearest authorized Panasonic Servicenter for service.

❑ Troubleshooting Tips

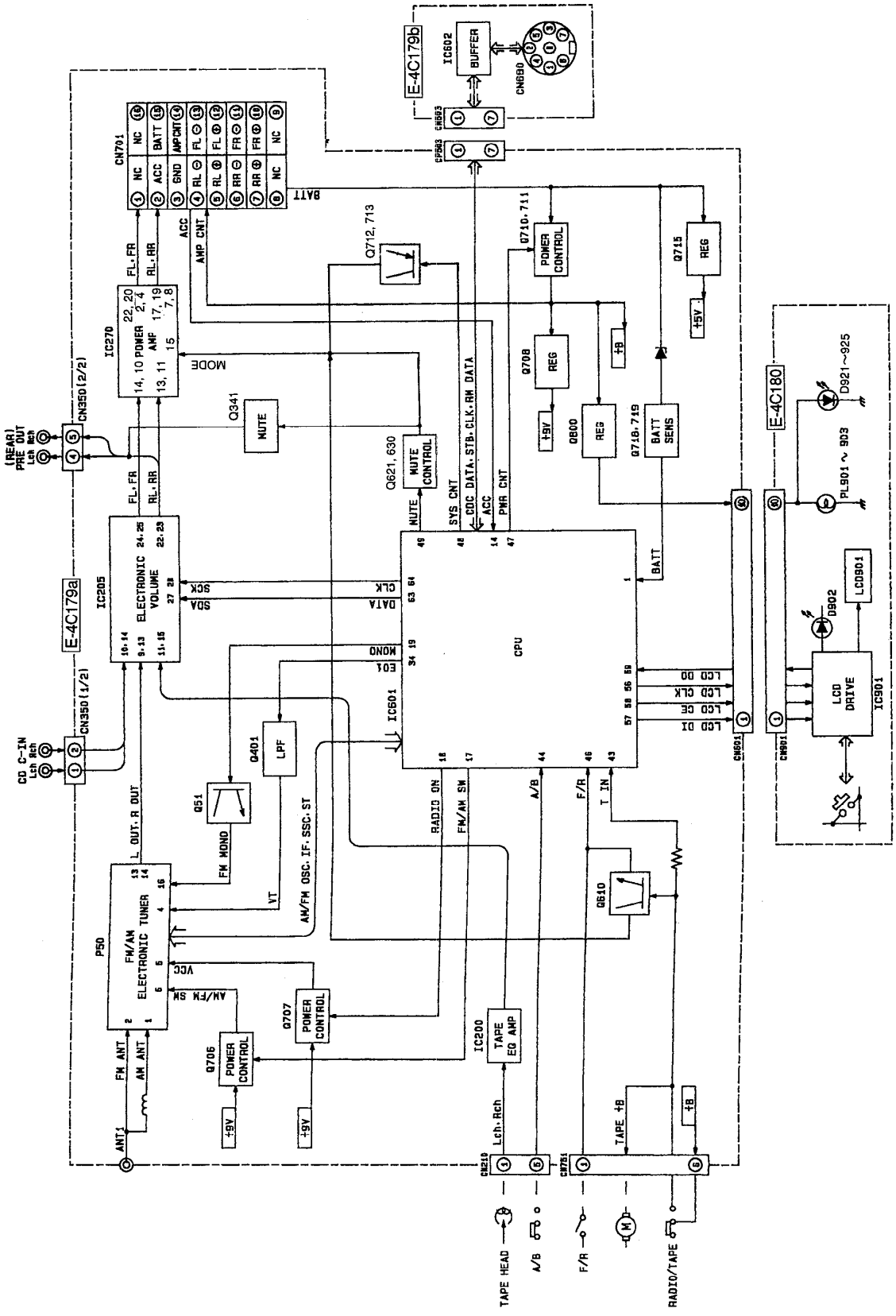
PROBLEM	POSSIBLE CAUSE	PROBABLE SOLUTION
Unit won't turn on.	Dead car battery. Ignition not on. Bad power line connection. Fuse burned out.	Charge car battery. Turn ignition to On or Accessory. Check connections. Replace fuse.
Radio has static.	Antenna not hooked up. Close to high power lines.	Hook up antenna. Move away from high power lines.
Radio memory buttons don't work.	Not holding buttons down long enough.	Press and hold buttons for more than 2 seconds.
Tape sound quality is poor.	Heads are dirty. Poor quality tape.	Clean heads. (Ask a service representative for advice.) Use better quality tape.
Tape won't change programs.	Not pressing [►►] and [◄◄] buttons at the same time.	Press [►►] and [◄◄] buttons at the same time.
CD Changer won't operate.	Unit not properly connected. Unit not switched into CD Change mode. No CDs in the magazine.	Check connections. Press [CD-C]. Check disc magazine.
CD Change won't play a specific disc.	Disc loaded upside down. Disc damaged. Disc not loaded in magazine.	Reload disc properly. Check disc for scratches, chips. Check disc magazine.

24

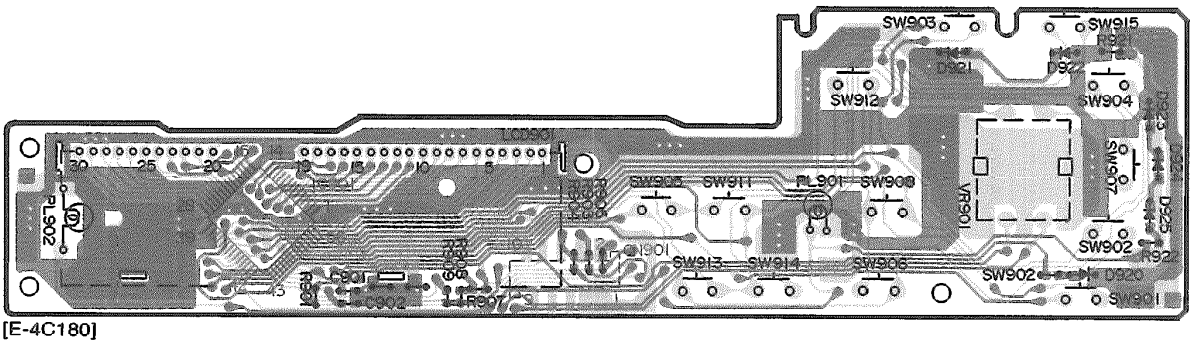
WIRING CONNECTION



BLOCK DIAGRAM MODEL CQ-R145U

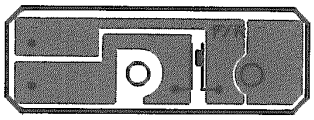


WIRING DIAGRAM(Display Block) MODEL CQ-R145U

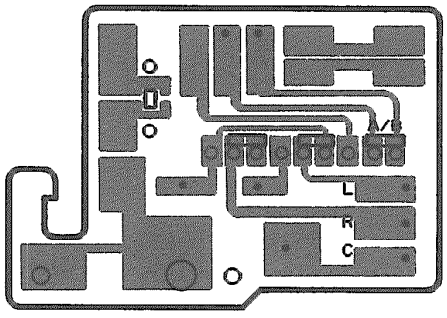


[E-4C180]

WIRING DIAGRAM (Tape Block) MODEL CQ-R145U

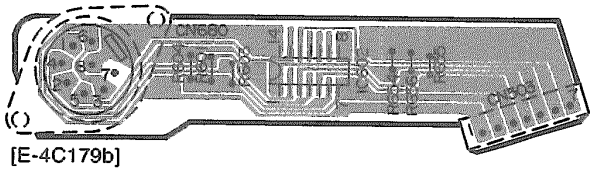


Mute P.C.B.

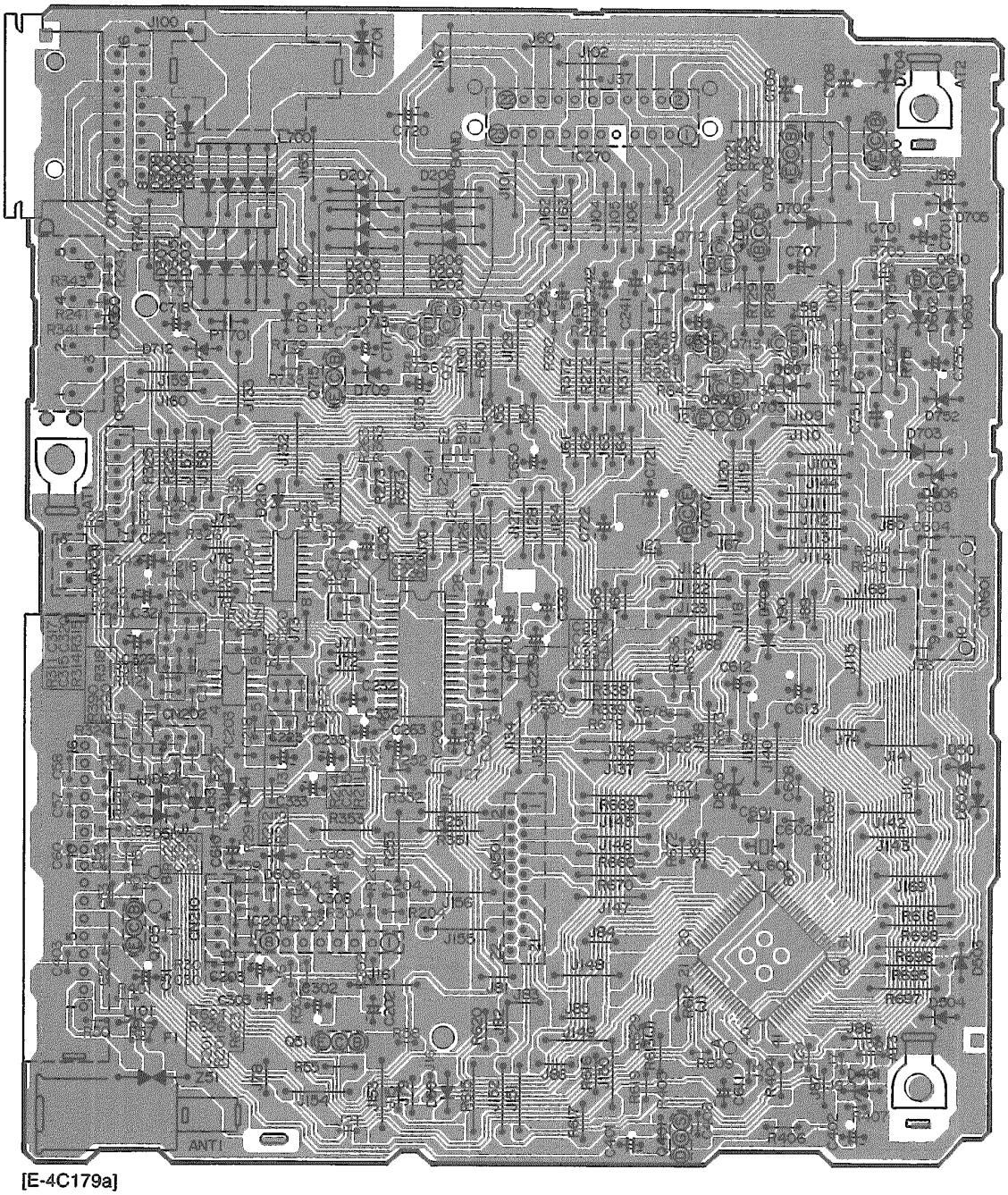


Switch P.C.B.

WIRING DIAGRAM (Main Block) MODEL CQ-R145U

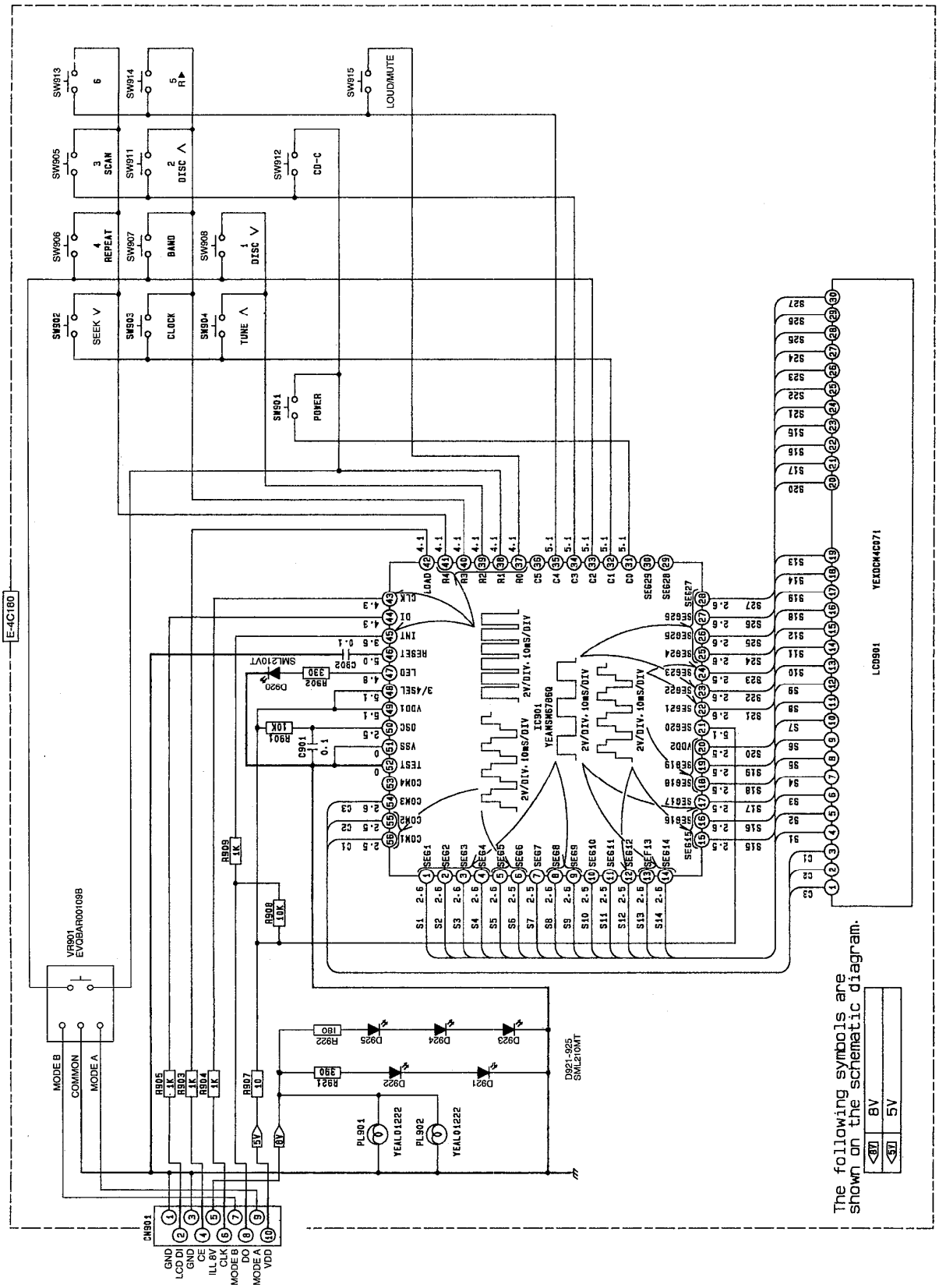


[E-4C179b]

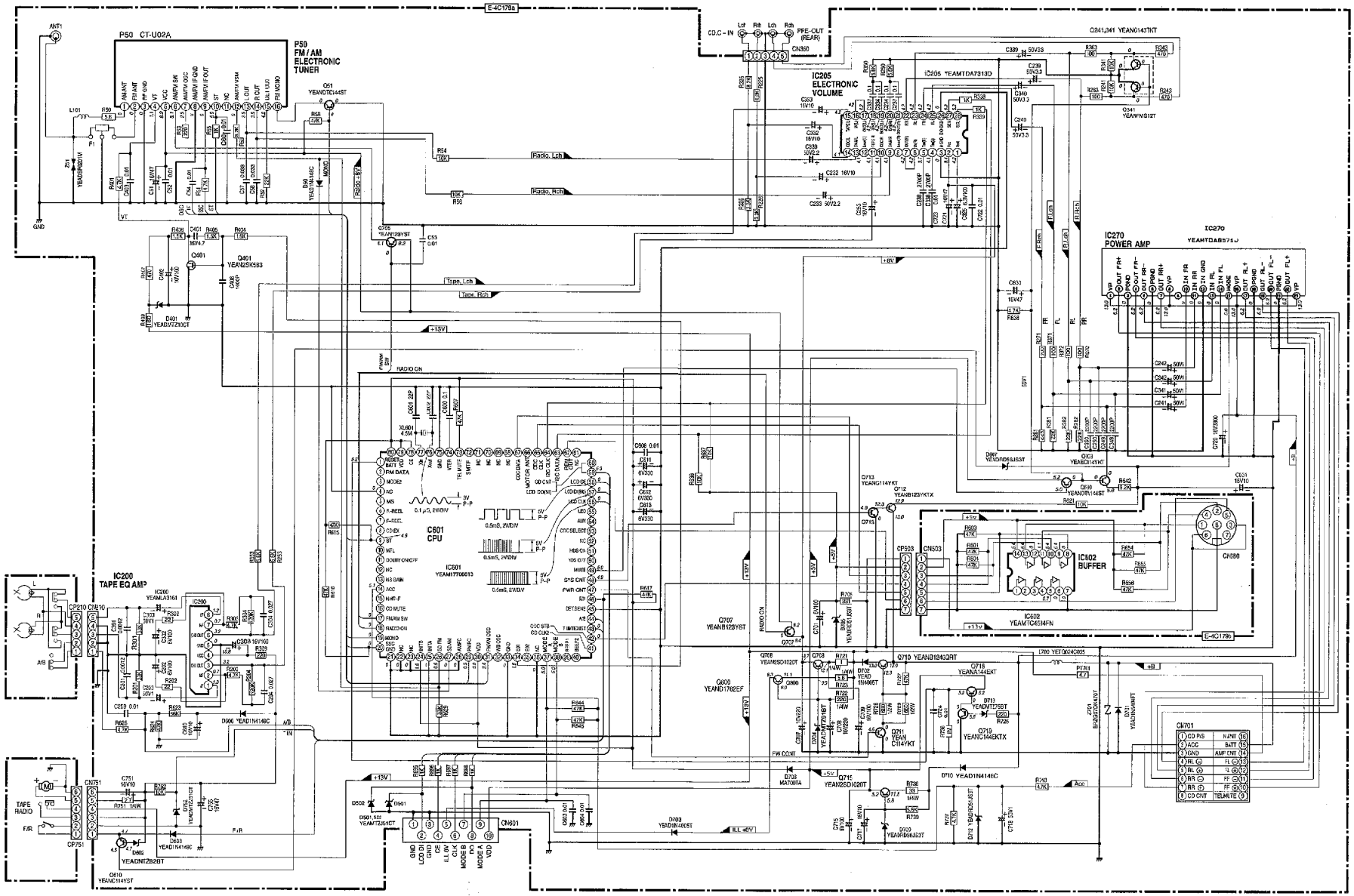


[E-4C179a]

SCHEMATIC DIAGRAM(Display Block) MODEL CQ-R145U



SCHEMATIC DIAGRAM(Main Block) MODEL CQ-R145U



■ IC601 YEAM17708613

Pin No.	Name	Description	I/O	Vol. (V)		
				AM	FM	TAPE
1	BATT	Battery Detection	I	5.1	5.1	5.1
2	REM DATA (NC)	—	—	—	—	—
3	MODE2 (NC)	—	—	—	—	—
4	(NC)	(Connect to Ground)	—	—	—	—
5	MS (NC)	—	—	—	—	—
6	R-REEL (NC)	—	—	—	—	—
7	F-REEL (NC)	—	—	—	—	—
8	CD EX (NC)	—	—	—	—	—
9	ST	Stereo Signal Input	I	4.6	4.6	0.8
10	MTL (NC)	—	—	—	—	—
11	DOLBY ON/OFF (NC)	—	—	—	—	—
12	(NC)	—	—	—	—	—
13	MS GAIN (NC)	—	—	—	—	—
14	ACC	ACC Detection	I	5.1	5.1	5.1
15	MMT-F (NC)	—	—	—	—	—
16	CD MUTE (NC)	—	—	—	—	—
17	FM/AM SW	FM/AM Select Switch	O	8.1	0	0
18	RADIO ON	AM/FM Tuner ON	O	0	0	8.4
19	MONO	FM MONO SW	O	7.1	7.1	7.1
20	SSC	FM/AM SSC Control	O	0	0	0
21	GND	Ground	—	0	0	0
22	(NC)	(Connect to Ground)	—	—	—	—
23	(NC)	(Connect to Ground)	—	—	—	—
24	INIT B	(Pull-down)	—	4.7	4.7	4.7
25	INIT A	(Connect to Ground)	—	0	0	0
26	SD FM	FM SD Input	I	0	0	0
27	SD AM	AM SD Input	I	0	0	0
28	AMIFC (NC)	(Connect to Ground)	—	—	—	—
29	FMIFC	FM IF Input	I	5.1	0	0
30	VDD	Power supply +5V	—	4.8	4.8	4.8
31	FM/AM OSC	FM OSC Input	I	2.6	2.6	0
32	WB OSC (NC)	—	—	—	—	—
33	GND	Ground	—	0	0	0
34	E01	FM/AM VT Output	O	1.4	1.4	1.4
35	E02 (NC)	—	—	—	—	—
36	(NC)	—	—	—	—	—
37	MODE A	Rotary Encoder Input A	I	5.0	5.0	5.0
38	MODE B	Rotary Encoder Input B	I	5.0	5.0	5.0
39	BEEP1 (NC)	—	—	—	—	—
40	BEEP2 (NC)	—	—	—	—	—

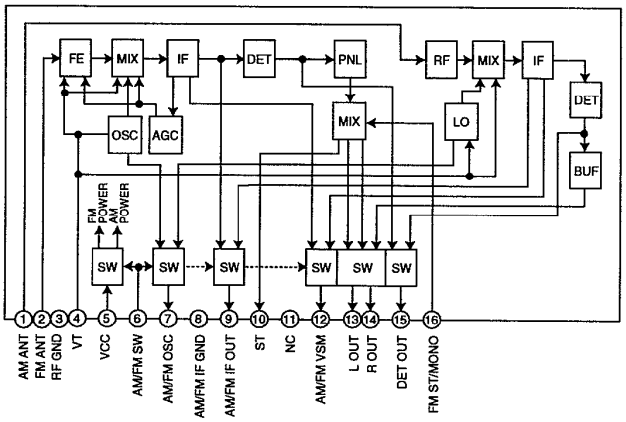
Pin No.	Name	Description	I/O	Vol.(V)		
				AM	FM	TAPE
41	CD CLK2 (NC)	—	—	—	—	—
42	CDC STB	CD changer Strobe	I	0	0	0
43	T IN/T EXIST	Tape-in Switch Signal	I	0	0	0
44	A/B	—	—	—	—	—
45	DET SENS (NC)	—	—	—	—	—
46	F/R	Foward/Reverse Select	O	0.5	0.5	4.7
47	PW CNT	System Power Control	O	4.7	4.7	4.7
48	SYS CNT	AMP ST-BY Control	O	4.7	4.7	4.7
49	MUTE	Mute Control	O	4.7	4.7	4.7
50	PL ON (NC)	—	—	—	—	—
51	HDB ON (NC)	—	—	—	—	—
52	(NC)	—	—	—	—	—
53	CDC SELECT (NC)	—	—	—	—	—
54	AUX (NC)	—	—	—	—	—
55	LED (NC)	—	—	—	—	—
56	LCD CLK	LCD Clock	O	4.4	4.4	4.4
57	LCD DI (MO)	LCD Data Input	O	4.4	4.4	4.4
58	LCD CE	LCD Chip Enble	O	0	0	0
59	LCD DC (MI)	LCD Data Output	I	3.8	3.8	3.8
60	(NC)	—	—	—	—	—
61	(NC)	—	—	—	—	—
62	REMOUT	Remoto Data Output	O	4.8	4.8	4.8
63	I2C DATA	I2C Data	I	5.1	5.1	5.1
64	I2C CLK	I2C Clock	O	5.1	5.1	5.1
65	CDC CLK	CD Changer Clock	I	0	0	0
66	MOTOR ANT (NC)	—	—	—	—	—
67	CDC DATA	CD Changer Data	I	0	0	0
68	MODE3 (NC)	—	—	—	—	—
69	NC	—	—	—	—	—
70	MODE1 (NC)	—	—	—	—	—
71	SMT-R (NC)	—	—	—	—	—
72	SMT-F (NC)	—	—	—	—	—
73	TELMUTE	(+5V Pull Up)	—	—	—	—
74	VTER (NC)	—	—	—	—	—
75	GND	Ground	—	0	0	0
76	X OUT	Crystal Oscilator	O	2.2	2.2	2.2
77	X IN	Crystal Oscilator	I	2.0	2.0	2.3
78	CE	Chip Enable	I	4.8	4.8	4.8
79	VDD	Power supply +5V	—	4.8	4.8	4.8
80	RESET	Reset Input	I	4.8	4.8	4.8

■ IC901 YEAMSM6786Q

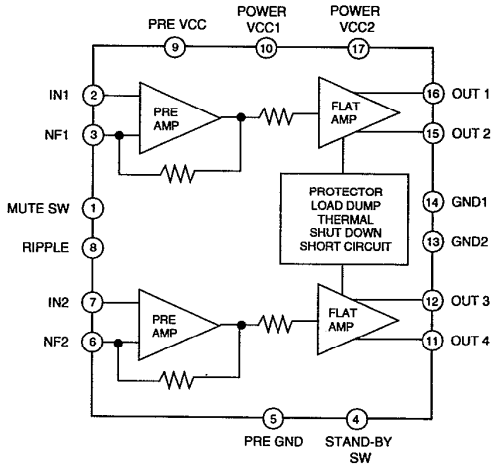
Pin No.	Name	Description	I/O	Vol.(V)
1	SEG1 (NC)	—	—	—
2	SEG2	LCD segment data 2	O	2.6
3	SEG3	LCD segment data 3	O	2.6
4	SEG4	LCD segment data 4	O	2.6
5	SEG5	LCD segment data 5	O	2.6
6	SEG6	LCD segment data 6	O	2.6
7	SEG7	LCD segment data 7	O	2.6
8	SEG8	LCD segment data 8	O	2.6
9	SEG9	LCD segment data 9	O	2.6
10	SEG10	LCD segment data 10	O	2.6
11	SEG11	LCD segment data 11	O	2.6
12	SEG12	LCD segment data 12	O	2.6
13	SEG13	LCD segment data 13	O	2.6
14	SEG14	LCD segment data 14	O	2.6
15	SEG15	LCD segment data 15	O	2.6
16	SEG16	LCD segment data 16	O	2.6
17	SEG17	LCD segment data 17	O	2.6
18	SEG18	LCD segment data 18	O	2.6
19	SEG19	LCD segment data 19	O	2.6
20	SEG20	LCD segment data 20	O	2.6
21	VDD2	+5V Power Supply	—	5.2
22	SEG21	LCD segment data 21	O	2.6
23	SEG22	LCD segment data 22	O	2.6
24	SEG23	LCD segment data 23	O	2.6
25	SEG24	LCD segment data 24	O	2.6
26	SEG25	LCD segment data 25	O	2.6
27	SEG26	LCD segment data 26	O	2.6
28	SEG27	LCD segment data 27	O	2.6
29	SEG28	LCD segment data 28	O	2.6
30	SEG29	LCD segment data 29	O	2.6
31	C0	Key Control 0	O	5.2
32	C1	Key Control 1	O	5.2
33	C2	Key Control 2	O	5.2
34	C3	Key Control 3	O	5.2
35	C4 (NC)	—	—	—
36	C5 (NC)	—	—	—
37	R0	Key Return 0	I	4.2
38	R1	Key Return 1	I	4.2
39	R2	Key Return 2	I	4.2
40	R3	Key Return 3	I	4.2
41	R4	Key Return 4	I	4.2
42	LOAD	LCD LSI Chip Enable	I	0
43	CLK	LCD Clock	I	0
44	DI	LCD Data Input	I	0
45	INT	LCD Data Output	O	4.2
46	RESET	Reset	I	4.0
47	LED	LED Control	O	4.3
48	3/4 SEL	(+5v Pull-up)	—	4.4
49	VDD1	+5v Power Supply	—	4.4
50	OSC	CR Oscillator	—	2.2
51	VSS	Ground	—	0
52	TEST	(Connecting to ground)	—	0
53	COM4 (NC)	—	—	—
54	COM3	LCD Common 3	O	2.2
55	COM2	LCD Common 2	O	2.2
56	COM1	LCD Common 1	O	2.2

PACKAGE AND IC BLOCK DIAGRAM

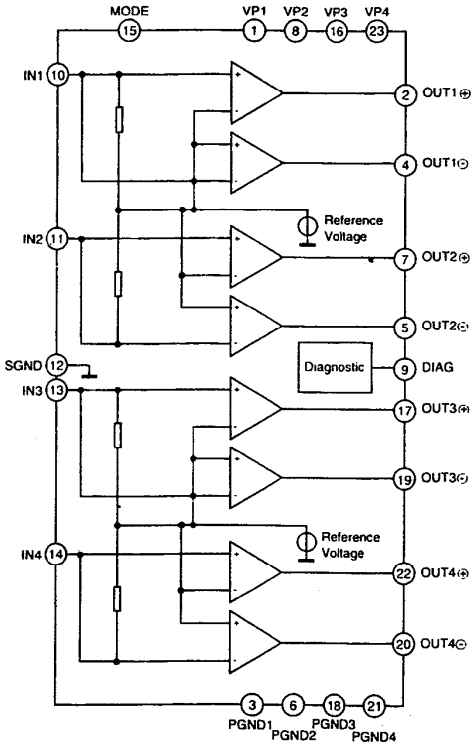
■ P50 CT-U02 [E-4C179]



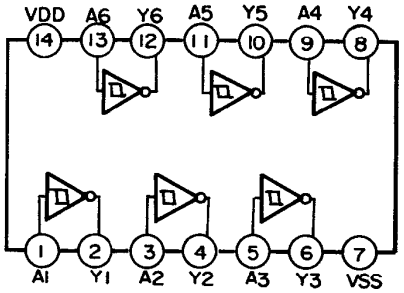
■ IC200 YEAMLA3161 [E-4C179]



■ IC270 YEAMTDA8571J [E-4C179]



■ IC602 YEAMTC4584FN [E-4C179]



1 Replacement Parts List

Note:

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice: Components, identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing, as in a load map.
4. The marking (RTL) indicates that Retention Time is limited for this item. After the discontinuation of assembly in production, the item will continue to be availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
5. "T" marks in remarks column are indicated supply parts of TAMACO.

1.1. IC's and Transistors

MAIN BLOCK [E-4C179]

Ref. No.	Part No.	Part Name & Description	Remarks
IC200	YEAMLA3161	IC	
IC205	YEAMTDA7313D	IC	T
IC270	YEAMTDA8571J	IC	T
IC601	YEAM17708613	IC	T
IC602	YEAMTC4584FN	IC	T
P50	CT-U02A	FM/AM Tuner Pack	T
Q51	YEANDTC144ST	Transistor	
Q341	YEANFMG12T	Transistor	
Q401	YEAN2SK583	Transistor	
Q610	YEANC114YST	Transistor	
Q630	YEANDTA144ST	Transistor	
Q703	YEANC114YKT	Transistor	
Q705	YEANA123YST	Transistor	
Q706	YEANA123YST	Transistor	
Q707	YEANB123YST	Transistor	
Q708	YEAN2SD1020T	Transistor	
Q710	YEANB1243QRT	Transistor	
Q711	YEANC114YKT	Transistor	
Q712	YEANB123KTX	Transistor	T
Q713	YEANC114YKT	Transistor	
Q715	YEAN2SD1020T	Transistor	
Q718	YEANA144EKT	Transistor	
Q719	YEANC144EKTX	Transistor	
Q800	YEAND1762EF	Transistor	

DISPLAY BLOCK [E-4C180]

Ref. No.	Part No.	Part Name & Description	Remarks
IC901	YEAMSM6786Q	IC	T

1.2. Diodes

MAIN BLOCK [E-4C179]

Ref. No.	Part No.	Part Name & Description	Remarks
D50	YEAD1N4148C	Diode	T
D401	YEADMTZ10CT	Diode	T
D501	YEADMTZJ51CT	Diode	T
D502	YEADMTZJ51CT	Diode	T
D602	YEADMTZ82BT	Zener Diode	T
D603	YEAD1N4148C	Diode	T
D606	YEAD1N4148C	Diode	T
D607	YEADRD56JS3	Zener Diode	T
D701	YEAD1N5404FT	Diode	T
D702	YEAD1N4005T	Diode	T
D703	YEAD1N4005T	Diode	T
D704	YEADMTZ91BT	Zener Diode	T
D705	YEADRD51JS3	Zener Diode	
D708	MA700TA	Diode	T
D709	YEADRD56JS3T	Zener Diode	T
D710	YEAD1N4148C	Diode	T
D712	YEADRD51JS3	Zener Diode	
D713	YEADMTZ75BT	Zener Diode	T
D752	YEADMTZJ51CT	Zener Diode	T

DISPLAY BLOCK [E-4C180]

Ref. No.	Part No.	Part Name & Description	Remarks
D920	SML210VT	LED (Red)	T
D921	SML210MT	LED (Green)	T
D922	SML210MT	LED (Green)	T
D923	SML210MT	LED (Green)	T
D924	SML210MT	LED (Green)	T
D925	SML210MT	LED (Green)	T

1.3. Capacitors

MAIN BLOCK [E-4C179]

Ref. No.	Part No.	Part Name & Description	Remarks
C51	ECEA1CKS470I	Electrolytic, 47MFD 16WV	
C52	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C53	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C54	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C57	ECUV1H333KBN	Ceramic, 0.033MFD 50WV	T
C58	ECUV1H333KBN	Ceramic, 0.033MFD 50WV	T
C60	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C201	ECUV1H122KBN	Ceramic, 1200pF 50WV	T
C202	ECEA0JKS101	Electrolytic, 100MFD 6.3WV	
C203	ECEA1HKS010I	Electrolytic, 1MFD 50WV	
C204	ECUV1H273KBN	Ceramic, 0.027MFD 50WV	T
C232	ECEA1CKS100I	Electrolytic, 10MFD 16WV	
C233	ECEA1HKS2R2I	Electrolytic, 2.2MFD 50WV	
C234	ECUV1H104KBN	Ceramic, 0.1MFD 50WV	T
C237	ECUV1H104KBN	Ceramic, 0.1MFD 50WV	T
C238	ECUV1H272KBN	Ceramic, 2700pF 50WV	T
C239	ECEA1EKS3R3I	Electrolytic, 3.3MFD 25WV	
C240	ECEA1EKS3R3I	Electrolytic, 3.3MFD 25WV	
C241	ECEA1HKS010I	Electrolytic, 1MFD 50WV	
C242	ECEA1HKS010I	Electrolytic, 1MFD 50WV	
C249	ECUV1H222KBN	Ceramic, 2200pF 50WV	T
C250	ECUV1H222KBN	Ceramic, 2200pF 50WV	T
C253	ECEA1CKS100I	Electrolytic, 10MFD 16WV	
C259	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C301	ECUV1H122KBN	Ceramic, 1200pF 50WV	T
C302	ECEA0JKS101	Electrolytic, 100MFD 6.3WV	
C303	ECEA1HKS010I	Electrolytic, 1MFD 50WV	
C304	ECUV1H273KBN	Ceramic, 0.027MFD 50WV	T
C308	ECEA1CKS101I	Electrolytic, 100MFD 16WV	
C325	ECEA0JKS101	Electrolytic, 100MFD 6.3WV	
C332	ECEA1CKS100I	Electrolytic, 10MFD 16WV	
C333	ECEA1HKS2R2I	Electrolytic, 2.2MFD 50WV	
C334	ECUV1H104KBN	Ceramic, 0.1MFD 50WV	T
C337	ECUV1H104KBN	Ceramic, 0.1MFD 50WV	T
C338	ECUV1H272KBN	Ceramic, 2700pF 50WV	T
C339	ECEA1EKS3R3I	Electrolytic, 3.3MFD 25WV	
C340	ECEA1EKS3R3I	Electrolytic, 3.3MFD 25WV	
C341	ECEA1HKS010I	Electrolytic, 1MFD 50WV	
C342	ECEA1HKS010I	Electrolytic, 1MFD 50WV	
C349	ECUV1H222KBN	Ceramic, 2200pF 50WV	T
C350	ECUV1H222KBN	Ceramic, 2200pF 50WV	T
C353	ECEA1CKS100I	Electrolytic, 10MFD 16WV	
C401	ECEA1VSN4R7I	Electrolytic, 4.7MFD 35WV	T
C402	ECEA1AKS101	Electrolytic, 100MFD 10WV	
C403	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C408	ECUV1H102KBN	Ceramic, 0.001MFD 50WV	T
C600	ECUV1H104ZFN	Ceramic, 0.1MFD 50WV	T

Ref. No.	Part No.	Part Name & Description	Remarks
C601	ECUV1H220JC	Ceramic, 22pF 50WV	T
C602	ECUV1H220JC	Ceramic, 22pF 50WV	T
C603	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C604	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C608	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C610	ECEA1CKS100I	Electrolytic, 10MFD 16WV	
C611	ECEA0JKS331I	Electrolytic, 330MFD 6.3WV	
C612	ECEA0JKS331I	Electrolytic, 330MFD 6.3WV	
C613	ECEA0JKS331I	Electrolytic, 330MFD 6.3WV	
C630	ECEA0JKS470I	Electrolytic, 47MFD 6.3WV	
C631	ECEA1CKS100I	Electrolytic, 10MFD 16WV	
C701	ECEA0JKS101	Electrolytic, 100MFD 6.3WV	
C707	ECEA1AKS221I	Electrolytic, 220MFD 10WV	
C708	ECEA1AKS221I	Electrolytic, 220MFD 10WV	
C709	ECEA1CKS101I	Electrolytic, 100MFD 16WV	
C715	ECEA0JKS101	Electrolytic, 100MFD 6.3WV	
C717	ECEA1CKS100I	Electrolytic, 10MFD 16WV	
C718	ECEA1HKS010I	Electrolytic, 1MFD 50WV	
C720	ECEA1CU332C	Electrolytic, 3300MFD 16WV	T
C721	ECEA1AKS470I	Electrolytic, 47MFD 10WV	
C722	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C724	ECUV1H103KBN	Ceramic, 0.01MFD 50WV	T
C751	ECEA1CKS100I	Electrolytic, 10MFD 16WV	
C755	ECEA1CKS470I	Electrolytic, 47MFD 16WV	

DISPLAY BLOCK [E-4C180]

Ref. No.	Part No.	Part Name & Description	Remarks
C901	ECUV1C104KBV	Ceramic, 0.1MFD 16WV	T
C902	ECUV1C104KBV	Ceramic, 0.1MFD 16WV	T

1.4. Resistors

MAIN BLOCK [E-4C179]

Ref. No.	Part No.	Part Name & Description	Remarks
R50	ERJ6GEYJ5R6	Chip, 5.6 ohms 1/10W	
R51	ERJ6GEYJ472	Chip, 4.7k ohms 1/10W	
R52	ERJ6GEYJ223	Chip, 22k ohms 1/10W	
R53	ERJ6GEYJ221	Chip, 220 ohms 1/10W	
R54	ERJ8GEYJ103V	Chip, 10k ohms 1/8W	
R55	ERDS2TJ102	Carbon, 1k ohms 1/4W	
R56	ERJ8GEYJ103V	Chip, 10k ohms 1/8W	
R58	ERJ6GEYJ473	Chip, 47k ohms 1/10W	
R59	ERJ6GEYJ822	Chip, 8.2k ohms 1/10W	
R201	ERJ6GEYJ333	Chip, 33k ohms 1/10W	
R202	ERJ6GEYJ220	Chip, 22 ohms 1/10W	
R203	ERJ6GEYJ472	Chip, 4.7k ohms 1/10W	
R204	ERJ6GEYJ124	Chip, 120k ohms 1/10W	
R225	ERD25TJ822	Carbon, 8.2k ohms 1/4W	
R226	ERJ6GEYJ332	Chip, 3.3k ohms 1/10W	
R241	ERJ6GEYJ103	Chip, 10k ohms 1/10W	
R243	ERJ6GEYJ471	Chip, 470 ohms 1/10W	
R250	ERJ6GEYJ562	Chip, 5.6k ohms 1/10W	
R253	ERD25TJ562	Carbon, 5.6k ohms 1/4W	
R263	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R271	ERD25TJ101	Carbon, 100 ohms 1/4W	
R272	ERD25TJ101	Carbon, 100 ohms 1/4W	
R281	ERJ6GEYJ223	Chip, 22k ohms 1/10W	
R282	ERJ6GEYJ223	Chip, 22k ohms 1/10W	
R301	ERJ6GEYJ333	Chip, 33k ohms 1/10W	
R302	ERJ6GEYJ220	Chip, 22 ohms 1/10W	
R303	ERJ6GEYJ472	Chip, 4.7k ohms 1/10W	
R304	ERJ6GEYJ124	Chip, 120k ohms 1/10W	
R309	ERJ8GEYJ221V	Chip, 220 ohms 1/8W	
R325	ERD25TJ822	Carbon, 8.2k ohms 1/4W	
R326	ERJ6GEYJ332	Chip, 3.3k ohms 1/10W	
R338	ERD25TJ102	Carbon, 1k ohms 1/4W	
R339	ERD25TJ102	Carbon, 1k ohms 1/4W	
R341	ERJ6GEYJ103	Chip, 10k ohms 1/10W	
R343	ERJ6GEYJ471	Chip, 470 ohms 1/10W	
R350	ERJ6GEYJ562	Chip, 5.6k ohms 1/10W	
R353	ERD25TJ562	Carbon, 5.6k ohms 1/4W	
R363	ERJ6GEYJ101	Chip, 100 ohms 1/10W	
R371	ERD25TJ101	Carbon, 100ohms 1/4W	
R372	ERD25TJ101	Carbon, 100 ohms 1/4W	
R381	ERJ6GEYJ223	Chip, 22k ohms 1/10W	
R382	ERJ6GEYJ223	Chip, 22k ohms 1/10W	
R401	ERJ8GEYJ472V	Chip, 4.7k ohms 1/8W	
R404	ERDS2TJ152	Carbon, 1.5k ohms 1/4W	
R405	ERJ8GEYJ152V	Chip, 1.5k ohms 1/8W	
R406	ERDS2TJ152	Carbon, 1.5k ohms 1/4W	
R407	ERJ6GEYJ471	Chip, 470 ohms 1/10W	
R408	ERDS2TJ181	Carbon, 180 ohms 1/4W	
R601	ERJ8GEYJ473V	Chip, 47k ohms 1/8W	
R603	ERJ6GEYJ473	Chip, 47k ohms 1/10W	
R604	ERJ8GEYJ473V	Chip, 47k ohms 1/8W	
R607	ERJ6GEYJ473	Chip, 47k ohms 1/10W	
R615	ERD25TJ473	Carbon, 47k ohms 1/4W	
R616	ERDS2TJ473	Carbon, 47k ohms 1/4W	
R617	ERDS2TJ473	Carbon, 47k ohms 1/4W	
R621	ERJ6GEYJ103	Chip, 10k ohms 1/10W	
R623	ERJ6GEYJ563	Chip, 56k ohms 1/10W	
R624	ERJ6GEYJ473	Chip, 47k ohms1/10W	
R626	ERJ6GEYJ472	Chip, 4.7k ohms 1/10W	
R629	ERJ6GEYJ333	Chip, 33k ohms 1/10W	
R636	ERJ6GEYJ103	Chip, 10k ohms 1/10W	
R637	ERJ6GEYJ103	Chip, 10k ohms 1/10W	
R638	ERJ6GEYJ472	Chip, 4.7k ohms 1/10W	
R642	ERJ6GEYJ822	Chip, 8.2k ohms 1/10W	
R644	ERJ6GEYJ473	Chip, 47k ohms 1/10W	
R645	ERJ6GEYJ473	Chip, 47k ohms 1/10W	
R654	ERJ6GEYJ473	Chip, 47k ohms 1/10W	
R655	ERJ8GEYJ473V	Chip, 47k ohms 1/8W	
R656	ERJ6GEYJ473	Chip, 47k ohms 1/10W	
R695	ERD25TJ102	Carbon, 1k ohms 1/4W	
R696	ERD25TJ102	Carbon, 1k ohms 1/4W	
R697	ERD25TJ102	Carbon, 1k ohms 1/4W	
R698	ERD25TJ102	Carbon, 1k ohms 1/4W	
R705	ERJ6GEYJ331	Chip, 330 ohms 1/10W	
R721	ERD25FJ1R0	Carbon, 1.0 ohm 1/4W	
R722	ERD25TJ221	Carbon, 220 ohms 1/4W	
R723	ERD25FJ5R6	Carbon, 5.6 ohms 1/4W	
R725	ERJ8GEYJ221V	Chip, 220 ohms 1/8W	
R727	ERJ8GEYJ473V	Chip, 47k ohms 1/8W	
R728	ERD25TJ681	Carbon, 680 ohms 1/4W	
R729	ERD25TJ681	Carbon, 680 ohms 1/4W	
R736	ERJ6GEYJ105	Chip, 1M ohms 1/10W	
R737	ERJ6GEYJ472	Chip, 4.7k ohms 1/10W	
R738	ERJ8GEYJ330V	Chip, 33 ohms 1/8W	
R739	ERJ8GEYJ562V	Chip, 5.6k ohms 1/8W	
R740	ERD25TJ472	Carbon, 4.7k ohms 1/4W	
R751	ERD25FJ2R7	Carbon, 2.7 ohms 1/4W	
R752	ERJ6GEYJ103	Chip, 10k ohms 1/10W	

DISPLAY BLOCK [E-4C180]

Ref. No.	Part No.	Part Name & Description	Remarks
R901	ERJ3GEYJ103V	Chip, 10k ohms	
R902	ERJ3GEYJ331V	Chip, 330 ohms	
R903	ERJ3GEYJ102V	Chip, 1k ohms	
R904	ERJ3GEYJ102V	Chip, 1k ohms	
R905	ERJ3GEYJ102V	Chip, 1k ohms	
R907	ERJ3GEYJ100V	Chip, 10 ohms	T
R908	ERJ3GEYJ103V	Chip, 10k ohms	
R909	ERJ3GEYJ102V	Chip, 1k ohms	
R921	ERJ3GEYJ391V	Chip, 390 ohms	
R922	ERJ3GEYJ181V	Chip, 180 ohms	

1.5. Connectors

MAIN BLOCK [E-4C179]

Ref. No.	Part No.	Part Name & Description	Remarks
CN210	YEAE2011P05	Connector	
CN350	YEAE02166	Connector, RCA * 4	
CN503	YEAE4C01083	Connector	T
CN601	YEAETKCF10PS	Connector	

Ref. No.	Part No.	Part Name & Description	Remarks
CN680	YEAE4CDIN023	Connector	T
CN701	YEAE4CCON018	Connector	T
CN751	YEAE2011P06	Connector	
CP503	YEAE4C1084	Connector	T

DISPLAY BLOCK [E-4C180]

Ref. No.	Part No.	Part Name & Description	Remarks
CN901	YEAETKCF10XS	Connector	

1.6. Electric Parts

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW901	EVQPJH05K	Switch	
SW902	EVQPJJ04T	Switch	
SW903	EVQPJJ04T	Switch	
SW904	YEAS094C020	Switch	T
SW905	YEAS094C020	Switch	T
SW906	EVQPJJ04T	Switch	
SW907	EVQPJH05K	Switch	
SW908	YEAS094C020	Switch	T
SW911	YEAS094C020	Switch	T
SW912	EVQPJJ04T	Switch	
SW913	EVQPJJ04T	Switch	
SW914	EVQPJJ04T	Switch	
SW915	EVQPJJ04T	Switch	
VR901	EVQBAR00109B	Rotary Encoder	

CRYSTAL

Ref. No.	Part No.	Part Name & Description	Remarks
XL601	YEXL4C45TT	Crystal	T

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L101	YELT02C470K	Axial coil	T
L700	YETQ024C035	Choke Coil	T
F1	YEXC07T009	Band Pass Filter	

LCD

Ref. No.	Part No.	Part Name & Description	Remarks
LCD901	YEXDCM4C071	LCD	T

LAMP

Ref. No.	Part No.	Part Name & Description	Remarks
PL901	YEAL01222	Lamp	
PL902	YEAL01222	Lamp	

POSISTOR

Ref. No.	Part No.	Part Name & Description	Remarks
PT701	YERT7AR4R7MT	Posistor	

SURGE PRTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
Z51	YEADSPD201M	Surge Protector	T
Z701	ERZG07DK470T	Surge Protector	T

1.7. Accessories

PRINTING

Ref. No.	Part No.	Part Name & Description	Remarks
	YFM284C311ZA	Operating Instructions	T

INSTALLATION PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
6	YAJ024C062ZB	Power Cord Ass'y	T
2,4,5,7	ZZBISR115	Screw Kit and Dismounting Pin	T
3	YEFG044C002	Rear Support Strap	T

Ref. No.	Part No.	Part Name & Description	Remarks
1	YEFX0214198A	Mounting Collar	T

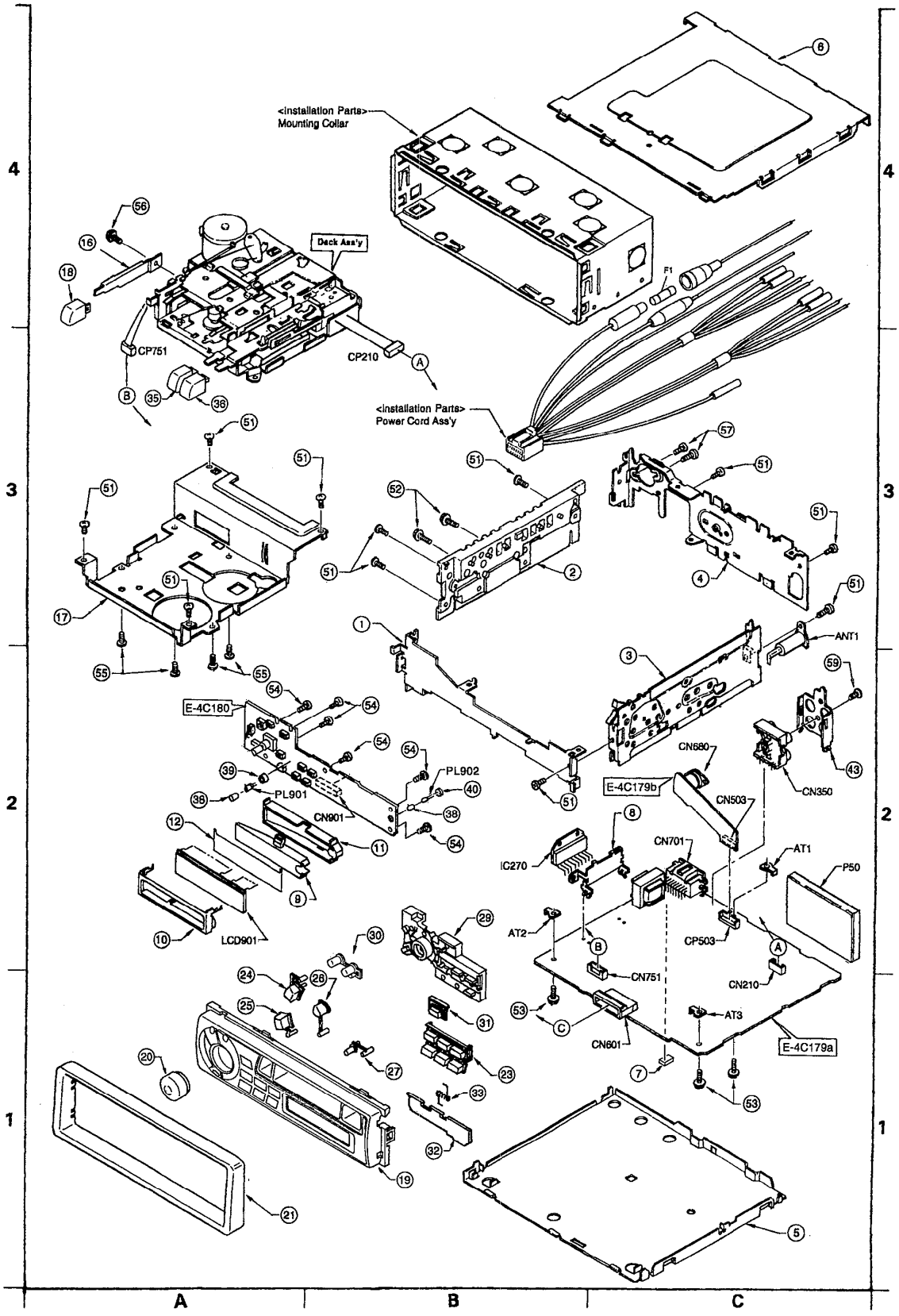
1.8. Mechanical Parts

MESCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
F1 ⚠	XBB1F100NS5	Fuse, 10A	
ANT1	YAA104C700ZA	Antenna Jack	T
AT1	YEAT03420	Terminal	
AT2	YEAT03420	Terminal	
AT3	YEAT03420	Terminal	
1	YFA074C040ZA	Front Plate	T(3-B)
2	YFF014C032XA	Heat Sink	(3-B)
3	YFA094C080ZA	Right Plate Ass'y	T(2-C)
4	YFA084C022ZA	Rear Plate	T(3-C)
5	YFA054C026YF	Under Cover	T(1-C)
6	YFA034C031ZC	Upper Cover	T(4-C)
7	YFS014C028ZA	Damper	T(1-C)
8	FX0214C172XA	IC Bracket	T(2-C)
9	FX0014C047ZA	Panel Light, LCD	T(1-A)
10	FX0214C213ZA	LCD Bracket	T(1-A)
11	YFX184C013ZA	LCD Holder	T(2-A)
12	YFV024C039ZA	Sheet, LCD	T(2-A)
16	YFX464C010ZA	Eject Lever	T(4-A)
17	FX0214C188YA	Deck Bracket	T(3-A)
18	YFE134C236ZA	Eject Lever Holder	T(4-A)
19	YFC024C473ZA	Escutcheon	T(1-A)
20	YFE074C054ZA	Knob	T(1-A)
21	YFC054C046ZA	Trim Plate	T(1-A)
23	YFE134C240ZA	Button (1-6)	T(1-B)
24	YFE134C288ZA	Button (TUNE)	T(1-A)
25	YFE134C290ZA	Button (SEEK)	T(1-A)
26	YFE134C289ZA	Button (BAND)	T(1-B)
27	YFE134C269ZA	Button (PWR)	T(1-B)
29	FX0014C056ZA	Panel Light	T(2-B)
30	YFE134C283ZA	Button (MUTE/CLOCK)	T(2-B)
31	YFE134C241YA	Button (CD.C)	T(1-B)
32	YFX024C736ZA	Dust Cover	T(1-B)
33	YFX0054C013	Spring, Dust Cover	T(1-B)
35	YFE134C238ZA	Button (REW)	T(3-A)
36	YFE134C237ZA	Button (FF)	T(3-A)
38	YEFR04276	Illumination Cap	(2-A) (2-B)
39	YEFK044C007	Lamp Gum	T(2-A)
40	YFK044C011ZA	Lamp Holder	T(2-B)
43	FX0214C187YA	RCA Jack Bracket	T(2-C)
51	XTB3+6FFX	Screw	
52	YEJT034C019	Screw, Cup Tight 3mm * 12mm	T(3-B)
53	YEJT034C001	Screw	T(1-B) (1-C)
54	XTN2+6C	Screw	T(2-A) (2-B)
55	XSB26+4FX	Screw	(2-A)
56	YEJT034C007	Screw	T(4-A)
57	XSB3+6FXS	Screw	(3-C)
59	XTW3+10C	Screw	T(2-C)

EXPLODED VIEW (UNIT) MODEL CQ-R145U

■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST



2 Tape Player Parts List

Note:

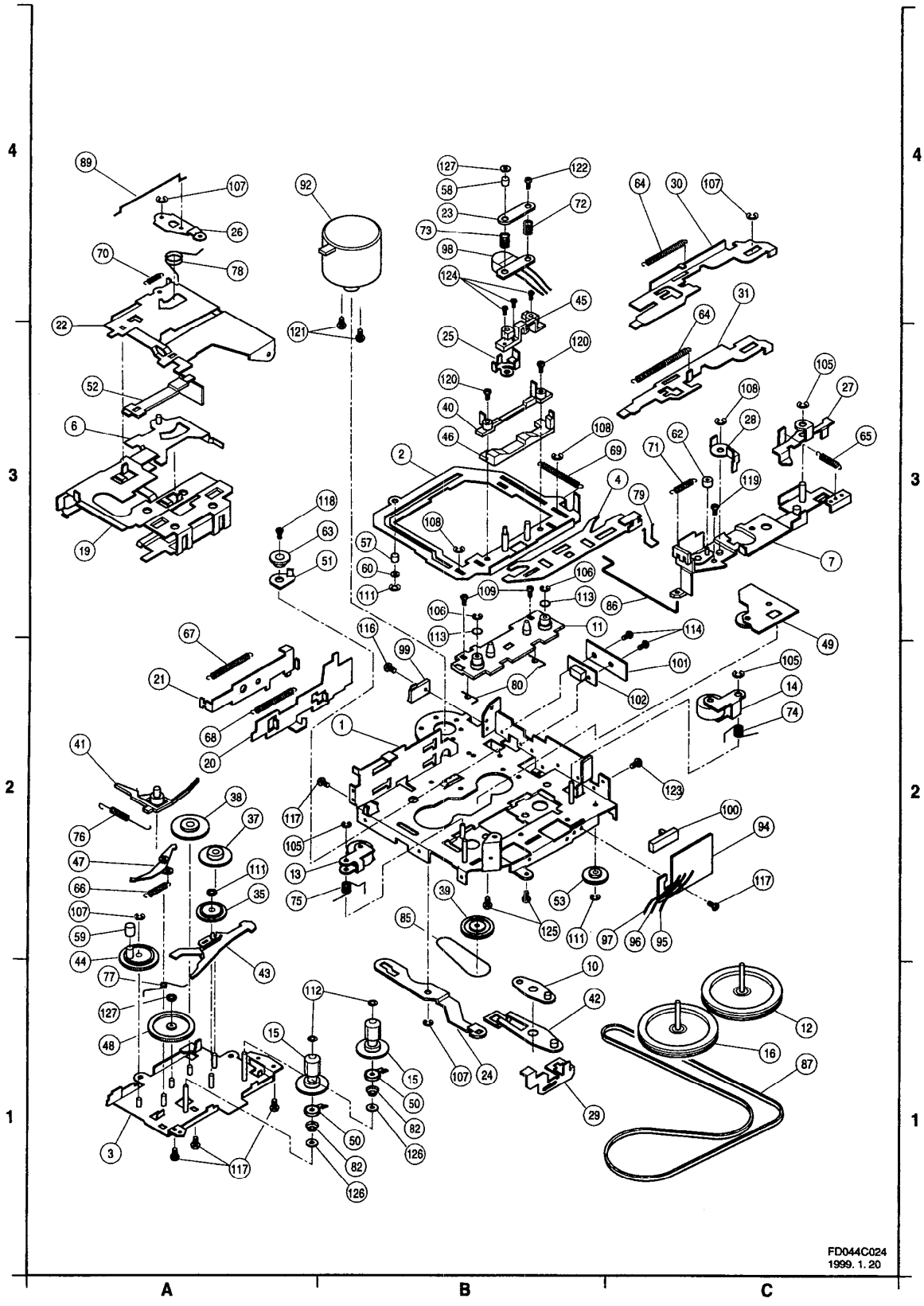
1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice: Components, identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing, as in a load map.
4. "T" marks in remarks column are indicated supply parts of TAMACO.

MISCELLANEOUS

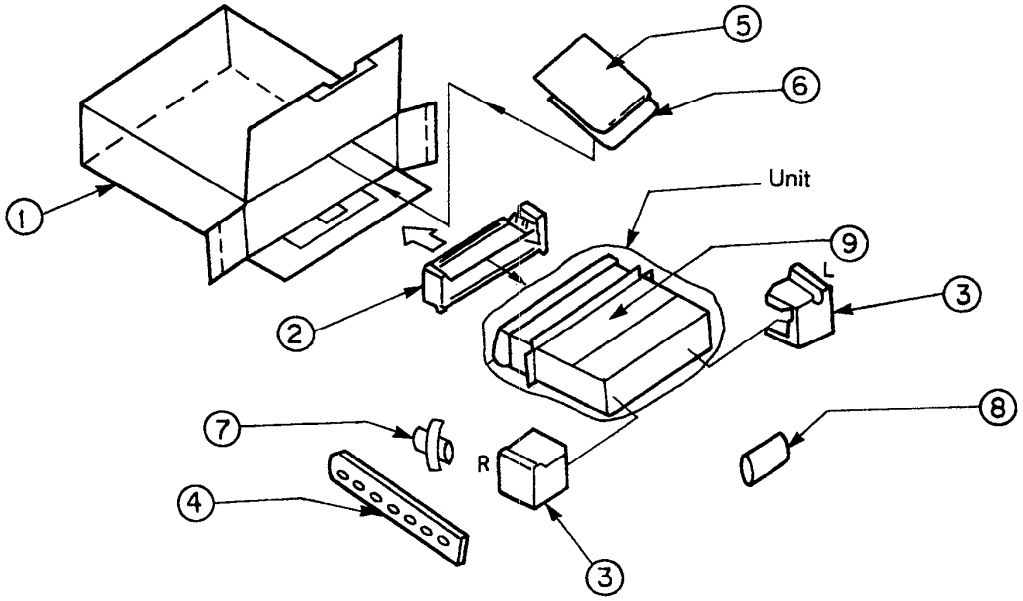
Ref. No.	Part No.	Part Name & Description	Remarks
1	X0036-1001	Main Chassis Ass'y	T(2-B)
2	X0036-6082	Head Plate Ass'y	T(3-B)
3	X0036-1009	Reel Base Ass'y	T(1-A)
4	X0036-1010	FR Changing Arm Ass'y	T(3-B)
6	X0036-1019	Eject Cam Lock Ass'y	T(3-A)
7	X0036-6077	Lever Bracket Ass'y	T(3-C)
10	X0036-1025	FR Arm (B) Ass'y	T(1-B)
11	X0138-2006	CM Bracket Ass'y	T(3-B)
12	10036-60011	Flywheel Ass'y (F)	T(1-C)
13	10138-6002	Pinch Arm (R) Ass'y	T(2-B)
14	10138-6003	Pinch Arm (F) Ass'y	T(2-C)
15	X0036-6080	Reel Spindle Ass'y	T(1-A) (1-B)
16	10036-60010	Flywheel Ass'y (R)	T(1-C)
19	10138-1010	Cassette Holder	T(3-A)
20	10036-1006	Eject Cam	T(2-A)
21	10036-1046	Eject Lever (S)	T(2-A)
22	10138-1002	Cassette Hanger	T(3-A)
23	10036-1015	SPG Support Plate	T(4-B)
24	10036-1016	Conversion Lever	T(1-B)
25	10138-1006	Adjuster Shim	T(3-B)
26	10036-1018	Center Plate	T(4-A)
27	10036-1013	Lock Arm	T(3-C)
28	10036-1023	Change Lever (B)	T(3-C)
29	10036-1026	FR Arm (B)	T(1-B)
30	10036-1004	FF Lever (AT)	T(4-C)
31	10036-1005	Rew Lever (AT)	T(3-C)
35	10036-2001	Idle Gear	T(2-A)
37	10036-20040	Reduction Gear (A)	T(2-A)
38	10036-2003	Reduction Gear (B)	T(2-A)
39	10036-20050	Pulley Gear	T(2-B)
40	10038-2018	Tape Guide	T(3-B)
41	10036-2007	Ratchet	T(2-A)
42	10036-2008	FF Arm	T(1-B)
43	10036-2009	Sensor Arm	T(2-A)
44	10036-2010	Selector Gear	T(2-A)
45	10138-20053	Adjuster Arm	T(4-B)
46	10138-2004	Adjuster Link	T(3-B)
47	10038-2014	Gear Lock Arm	T(2-A)
48	10036-2014	Detector Gear	T(1-A)
49	X0036-2015	TU Gear Arm Ass'y	T(3-C)
50	X0136-2001	Detector Cam Ass'y	T(1-A) (1-B)
51	10038-2034	Mute Arm (N)	T(3-A)
52	10058-2004	Tape Hooker	T(3-A)
53	10058-20215	Idle Pulley (A)	T(2-B)
57	10036-3024	HP Roller (B)	T(3-B)
58	10036-3032	FF Roller (A)	T(4-B)
59	10036-3018	Collar (Selector Gear)	T(2-A)
60	10036-3002	HP Roller (A)	T(3-B)
62	10038-3012	Program Roller	T(3-C)
63	10038-3015	Mute Arm Collar	T(3-A)
64	10036-4001	FF/Rew Lever SPG	T(3-C) (4-C)
65	10036-4022	Lock Lever SPG (A)	T(3-C)
66	10036-4003	Gear Lock Arm SPG	T(2-A)
67	10036-4004	Eject Lever SPG	T(2-A)
68	10036-4005	Eject CamSPG	T(2-A)
69	10036-4006	Head Plate SPG	T(3-B)
70	10036-4007	Eject Cam Lock SPG	T(4-A)
71	10036-4008	Program Arm SPG	T(3-C)
72	10036-4010	Adjuster Arm SPG (A)	T(4-B)
73	10036-4011	Adjuster Arm SPG (B)	T(4-B)
74	10036-4012	Pinch Arm SPG (F)	T(2-C)
75	10036-4013	Pinch Arm SPG (R)	T(2-B)
76	10038-4014	Ratchet SPG	T(2-A)
77	10036-4015	Dash SPG	T(1-A)
78	10058-4023	Tambler SPG (B)	T(4-A)
79	10036-4017	Changing Arm SPG	T(3-C)
80	10036-4018	Earth SPG (R)	T(2-B)
82	10036-4032	Back Tension SPG (MH)	T(1-A) (1-B)
85	10036-5018	Sub Belt (C)	T(2-B)
86	10138-5001	Selector Link	T(3-C)
87	10036-5004	Main Belt	T(1-C)
89	10036-5006	Return Link	T(4-A)
92	X0036-6075	Motor Ass'y	T(4-B)
94	10036-7001	SW PWB	T(2-C)
95	10036-7002	Wire (A) Black 60mm	T(2-C)
96	10036-7003	Wire (B) Red 60mm	T(2-C)
97	10036-7004	Wire (C) Yellow 55mm	T(2-C)
98	10036-7005	Head	T(4-B)
99	10036-7034	Power SW	T(2-B)
100	10036-7007	Slide SW	T(2-C)
101	10138-7002	Mute PWB	T(2-C)
102	10138-7087	Mute SW	T(2-B)
105	21711-504016	E-Ring 1.5mm	T
106	21711-603296	E-Ring 1.6×3.2	T(3-B)
107	21712-005016	E-Ring 2mm	T
108	21712-506016	E-Ring 2.5mm	T
109	21331-7030C2	Machine Screw S-Type Plain #3 M1.7×3	T(3-B)
111	21812-0030D2	PSW-S 1.2×3.0×t0.25	T
112	10036-5019	Reel PSW	T(1-A) (1-B)
113	21821-0032D1	PSW	T(3-B)
114	21331-7040C2	+Machine Screw S-Type Plain #3 M1.7×4	T(3-C)
116	21331-7060C2	+Machine Screw S-Type Plain #3 M1.7×6	T(2-B)
117	21382-0030C2	+Machine Screw B-Type Plain #3 M2×3	T
118	21362-0040F2	+Machine Screw B-Type Flat #1 M2×4	T(3-A)
119	21332-0040C1	+Machine Screw S-Type Plain #3 M2×4	T(3-C)
120	21032-0070C2	+Machine Screw Plain #3 M2×7	T(3-B)
121	21032-0025C2	+Machine Screw Plain #3 M2×2.5	T(3-B)
122	21012-0040C2	+Machine Screw Plain #1 M2×4	T(4-B)
123	21012-0030F2	+Machine Screw Flat #1 M2×3	T(2-C)
124	10138-5002	Azimuth Screw Plain #1 P0.25 M2×5	T(4-B)
125	10036-5005	Eject Hook Screw M2×5	T(2-B)
126	10136-5001	LMW (Rew) 2.1×3.5×t0.05	T(1-A) (1-B)
127	10036-5024	PSW (Reel)B 1.5×3.2×t0.25	T

EXPLODED VIEW (Tape Deck) MODEL CQ-R145U

■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST



PACKING PARTS LIST



● *Item numbers listed below should not order regular spare parts. (not available)*

Item No.	Parts No.	Parts Name & Description	Q'ty	Remarks
①	—	Inner Carton	1	Not available
②	—	Packing Pad, Front	1	Not available
③	—	Packing Pad, Rihgt and Left	1	Not available
④	YEFG044C002	Rear Support Strap	1	
⑤	—	Operating Instructions Kit	1	Not available
	YFM284C311ZA	Operating Instructions	(1)	
	—	Warranty Card	(1)	Not available
	—	Servicenter List	(1)	Not available
⑥	—	Printing Kit for Canada	1	Not available
⑦	ZZBISR115	Screw Kit and Dismounting Pin	1	
⑧	YAJ024C062ZB	Power Cord Ass'y	1	
⑨	YEFX0214198A	Mounting Collar	1	

U-274
Printed in Japan Ⓚ
2000. 1

Order No.ACE00070771

C1

Parts Change Notice

CQ-R145U

Please revise the original parts list in the Service Manual to conform to the change(s) shown herein. / If new part numbers are shown, be sure to use then ordering parts.

Reason for Change *The circled item indicates the reason. If no marking, see the Notes in the bottom column.		
	1. Improve performance	CORRECTION
	2. Change of material or dimension	
	3. To meel approved specification	
	4. Standardization	
	5. Addition	
	6. Deletion	
●	7. Correction	
	8. Other	

Interchangeability Code **The circled item indicates the interchangeability. If no marking, see the Notes in the bottom colu				
		Parts	Set Production	
	A	Original / New	Early / Late	Original or new parts may be used in early or late production se original parts until exhausted, then stock new parts.
	B	Original / New	Early / Late	Original parts may be used in early production sets only. New p be used in early or late production sets. Use original parts whe possible, then stock new parts.
	C	Original / New	Early / Late	New parts only may be used in early or late production sets. / S parts.
	D	Original / New	Early / Late	Original parts may be used in early production sets only. New p be used in late production sets only. Stock both original and ne
●	E	Other		

Part Number					
Model No.	Ref. No.	Original Part No.	New Part No.	Notes (*-**)	Part Name & Descriptions
CQ-R145U	12	10036-60011	1-0036-6010-0	7-E	Flywheel Ass'y (F)
	16	10036-60010	1-0036-6010-1	7-E	Flywheel Ass'y (R)
	21	10036-1046	1-0036-1007	7-E	Eject Lever (S)
	56	---	1-0036-3042	7-E Added	Motor Pulley (MBC)
	58	10036-3032	1-0036-3004	7-E	FF Roller (A)
	82	10036-4032	1-0138-4001	7-E	Back Tension SPG (MI
	90	---	1-0012-5017	7-E Added	Mylar Washer
	93	---	1-0036-7057	7-E Added	Motor
	112	10036-5019	1-0036-5023	7-E	Reel PSW
	128	---	1-0036-5028	7-E Added	LMW (Fly) 2.2×5.5×t0.0

File this Parts Change Notice with your copy of the Service Manual.

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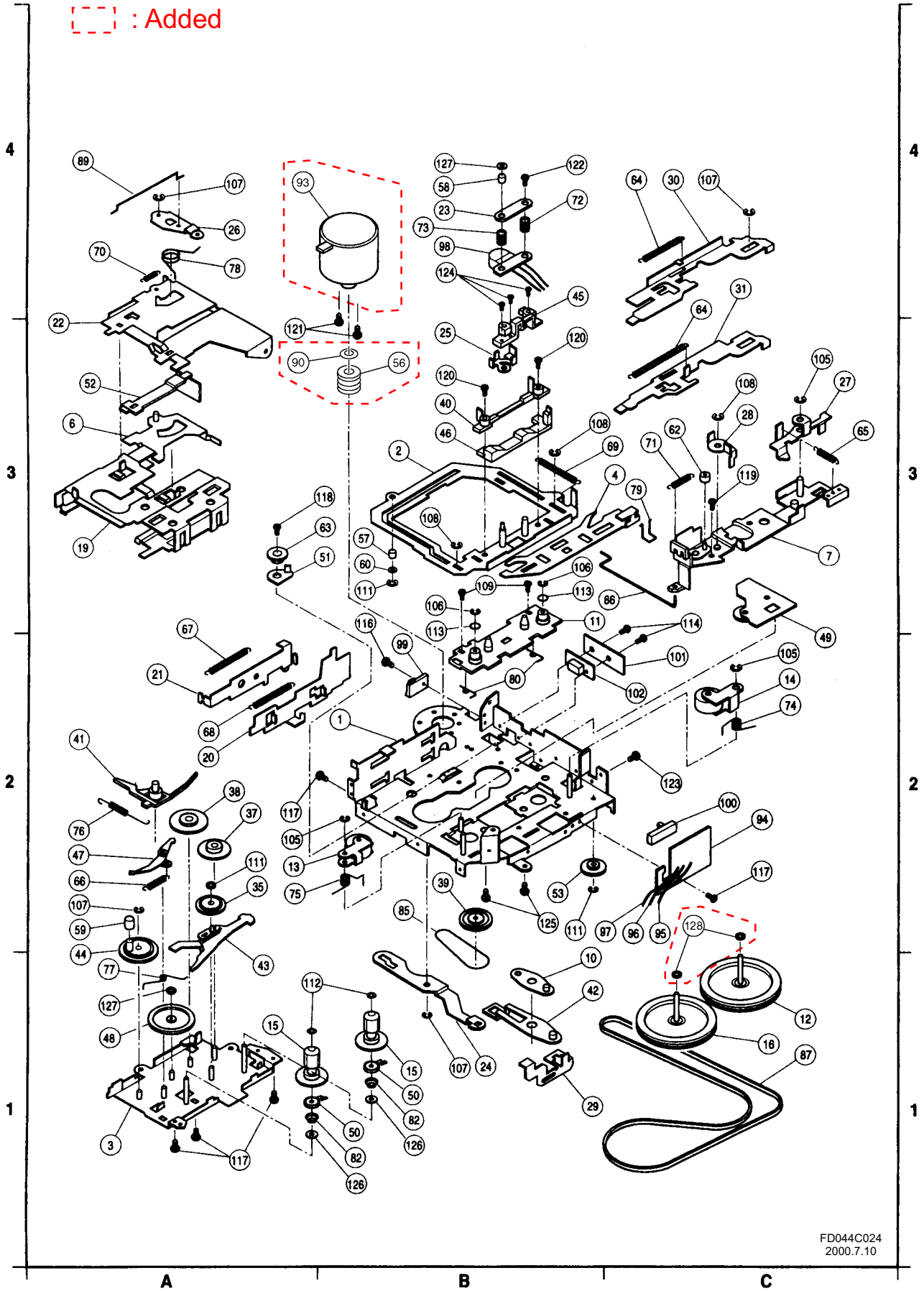
Panasonic®

1. EXPLODED VIEW (Tape Deck)

Printed in Japan / 2000.7 (K) / PCN-0100

: Added



ORDER No.ACE00055551

C1

Service Manual

AUTOMOTIVE CONSUMER ELECTRONICS

CQ-R145U

PARTS SUPPLY FOR DECK MECHANISM

Please file and use this supplement manual together with the service manual for Model No.CQ-R145U, Order No.ACED0001551.

SPECIFICATIONS

Owing to the change of the parts supplier, it becomes impossible to supply parts for some Deck mechanisms.

When there is a need of replacing parts for the deck mechanisms of units with the following Serial numbers, therefore, it is the only way to replace the whole deck mechanism as an Assembly.

SERIAL NUMBER	SERVICE METHOD	PART NO.
From 9LAGA01001 to 0EBGA11700	Replace the Deck Mechanism Assembly.	YEFD044C999A
0FCGB11701 and later	Replace the parts	Order them through the Original Service Manual. Order No.:ACED0001551 Parts Change Notice Order No.:ACE00070771

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

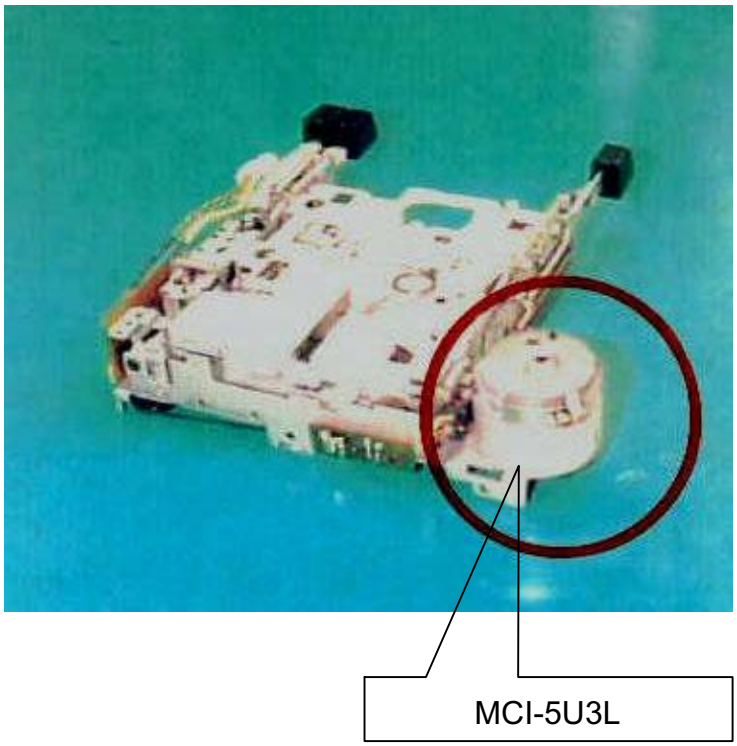
Panasonic®

1. How to distingwish a difference between Old deck and Current deck.

U-278 / Printed in Japan / 2000.7 (K)

Check the parts number which on the label of motor.

Serial No.:
From 9LAGA01001 to 0EBGA11700



Serial No.:
0FCGB11701 and later